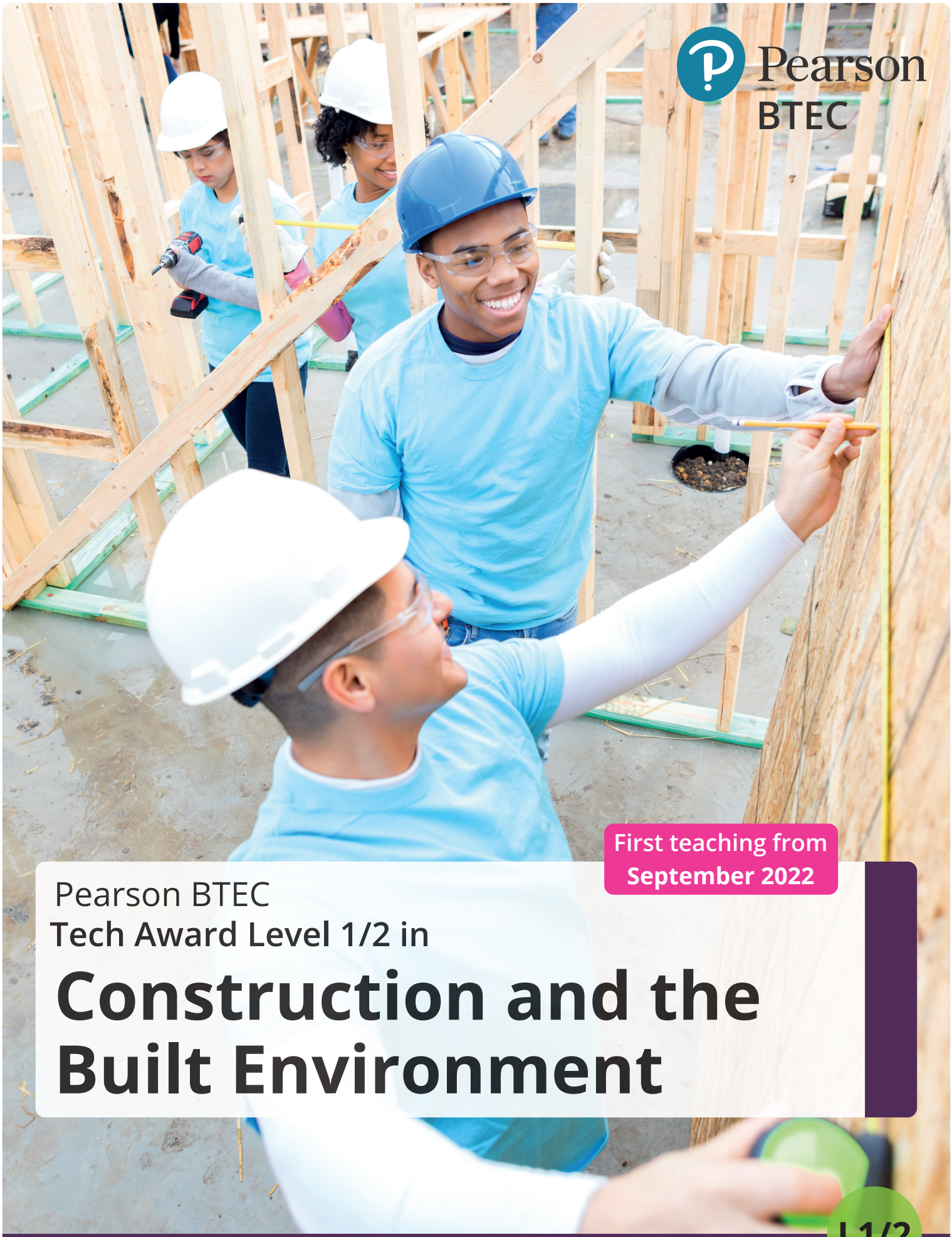

Pearson BTEC

First teaching from **September 2022**

Pearson BTEC
Tech Award Level 1/2 in

Construction and the Built Environment

L1/2

Specification

Qualification No: 603/7051/8 *First teaching from September 2022*

Issue 4

Pearson
BTEC Level 1/Level 2 Tech Award in Construction and the Built Environment

Specification

Qualification number: 603/7051/8

First teaching September 2022

Issue 4

About Pearson

We are the world's leading learning company operating in countries all around the world. We provide content, assessment and digital services to schools, colleges and universities, as well as professional and vocational education to learners to help increase their skills and lifelong employability prospects. We believe that wherever learning flourishes so do people.

This specification is Issue 4. We will inform centres of any changes to this issue. The latest issue can be found on our website.

References to third-party material made in this specification are made in good faith. We do not endorse, approve or accept responsibility for the content of materials, which may be subject to change, or any opinions expressed therein. (Material may include textbooks, journals, magazines and other publications and websites.)

Publication code VQ000070

All the material in this publication is copyright
© Pearson Education Limited 2023

Pearson BTEC Tech Awards – introduction

About the BTEC Tech Award suite

Tech Awards have been developed by Pearson to give learners at Key Stage 4 in England, Northern Ireland and Wales the opportunity to study one or more vocational areas as part of their curriculum. We have developed the qualifications in consultation with secondary school and further education representatives and subject specialists to ensure that they engage and prepare learners for either academic or vocational progression post-16.

As part of a Key Stage 4 programme, learners will be studying a broad range of GCSEs, including English, mathematics and science. The BTEC Tech Award suite has been designed to allow learners to draw on the knowledge and skills acquired from these subjects where relevant. When studying for a 'BTEC', learners can use the knowledge and skills from GCSEs, giving them the opportunity to apply their academic knowledge to everyday and work contexts.

The BTEC Tech Award suite is an introduction to vocational learning. The qualifications give learners the opportunity to build applied knowledge and skills that show an aptitude for further learning, both in the sector and more widely. The approach to the suite is based on well-established BTEC assessment approaches that are proven to be successful in building applied knowledge and skills and motivating learners to engage fully with challenging study. There are many progression options as the skills acquired are applicable to a range of post-16 study options.

The BTEC Tech Award suite differs from other BTECs designed to be taken post-16 as the qualifications offer a basis for further study, rather than meeting all the vocational requirements that learners need to progress directly to a job role in a defined occupational area. The focus is on building applied knowledge and skills to show aptitude and improving understanding of progression options so that learners who achieve one or more of the qualifications are equipped to go on to become work ready for an occupation post-16.

About recognition as Department for Education technical awards

The BTEC Tech Award suite has been designed to meet the Department for Education (DfE) requirements for qualifications to be offered as technical awards for 14–16-year-olds.

The DfE has set out characteristics for technical awards through which vocational qualifications can be recognised as part of performance measures in the open category of Progress 8. To be recognised as technical awards, it is expected that qualifications will focus on developing sector-specific applied knowledge and practical skills through realistic vocational contexts. It is also expected that the qualifications form part of a Key Stage 4 learning programme that enables both academic and vocational progression.

About the construction and the built environment sector

The construction industry is one of the UK's most important sectors. In 2018 it employed, directly or indirectly, around 2.4 million people and accounted for £117 bn of the value to the UK economy. The range of jobs available is large, covering traditional craft trades, large civil engineering infrastructure projects, housebuilding, design and consultancy, and the professions such as architecture, management and surveying Study of this sector at Key Stage 4 will complement GCSE study through providing an opportunity for practical application alongside conceptual study. There are also strong opportunities for post-16 progression in this vital sector.

Summary of Pearson BTEC Level 1/Level 2 Tech Award in Construction and the Built Environment Specification Issue 4 changes

Summary of changes made between the previous issue and this current issue	Page number
In Section 8 *Final grading and awarding, under Eligibility for an award* all references to Component 3 have been corrected to Component 1	Page 68

Summary of Pearson BTEC Level 1/Level 2 Tech Award in Construction and the Built Environment Specification Issue 3 changes

Summary of changes made between Issue 2 and Issue 3	Page number
Section 3: third paragraph, 'internal verifiers' has been changed to 'Programme Leads' and responsibility for the programme has been separated between delivery and quality assurance.	Page 8
We have amended the release dates for the Pearson-set assignments.	Page 38, 51
Section 5: *Internal Standardisation*, guidance on retention of evidence of internal standardisation activities has been clarified. *Moderation*, guidance on the purpose of moderation has been clarified and the requirement for evidence of internal standardisation has been removed.	Pages 62, 63

Contents

1 Pearson BTEC Level 1/Level 2 Tech Award in Construction and the Built Environment – purpose 1
Who is the qualification for? 1
What does the qualification cover? 1
What can the qualification lead to? 1
2 Structure 3
Total Qualification Time 3
Components 3
Assessment 4
Language of assessment 7
Grading of the qualification 7
3 Components 8
Understanding your components 8
Component 1: Construction Technology 11
Component 2: Construction in Practice 29
Component 3: Construction and Design 46
4 Planning your programme 58
Is there a learner entry requirement? 58
What level of sector knowledge is needed to teach this qualification? 58
What resources are required to deliver this qualification? 58
How does this qualification contribute to Key Stage 4 learning? 58
What makes good vocational teaching? 58
5 Non-exam internal assessment 59
Pearson-set Assignments 59
Sample Pearson-set Assignments for internal components 60
Marking Pearson-set Assignments 60
Internal standardisation 62
Moderation 63
6 Quality assurance 64
Centre and qualification approval 64
Continuing quality assurance 64

7 External assessment 66
Role of external assessment for the BTEC Tech Award suite 66
External assessment 66
Timing of external assessment 66
Sample assessment materials 66
Conduct of external assessment 67
Pearson marking 67
8 Final grading and awarding 68
Awarding and reporting for the qualification 68
Eligibility for an award 68
Calculation of the qualification grade 69
9 Administrative arrangements 71
Introduction 71
Learner registration and entry 71
Access to assessment 71
Administrative arrangements for internal assessment 72
Administrative arrangements for external assessment 73
Dealing with malpractice in assessment 74
Certification and results 76
Results issue 76
Post-assessment services 76
Additional documents to support centre administration 76
10 Resources and support 77
Support for setting up your course and preparing to teach 77
Support for teaching and learning 77
Support for assessment 77
Training and support from Pearson 78
Appendix 1 80
Glossary of terms used for internally-assessed components 80

1 Pearson BTEC Level 1/Level 2 Tech Award in Construction and the Built Environment – purpose

Who is the qualification for?

The Pearson BTEC Level 1/Level 2 Tech Award in Construction and the Built Environment (603/7051/8) is for learners who want to acquire sector-specific applied knowledge and skills through vocational contexts by studying practical skills used in construction, the principles of technology in construction used to create a better environment in the world, and interpreting the landscape, briefs and other aspects that impact on design and creation of construction as part of their Key Stage 4 learning. The qualification enables learners to develop their sector-specific skills, such as using tools and materials safely with vocationally correct techniques, interpreting and understanding the infrastructure for safe and efficient work, and specialist design techniques to enhance communication of design by using realistic vocational contexts. The qualification recognises the value of learning skills, knowledge and vocational attributes to complement GCSEs. The qualification will broaden learners' experience and understanding of the varied progression options available to them.

What does the qualification cover?

The Tech Award gives learners the opportunity to develop sector-specific applied knowledge and skills through realistic vocational contexts. Learners will have the opportunity to develop applied knowledge and practical skills in the following areas:

- construction technology
- construction in practice
- construction and design.

This Tech Award complements the learning in GCSE programmes such as GCSE Design and Technology by teaching additional and specific skills in either brickwork or carpentry and joinery, and by providing a more applied area of study when looking at the different types of technologies being used in a real-world setting for low-rise construction.

What can the qualification lead to?

Study of the qualification as part of Key Stage 4 learning will help learners to make more informed choices for further learning, either generally or in this sector. The choices that learners can make post-16 will depend on their overall level of attainment and their performance in the qualification.

Learners who generally achieve at Level 2 across their Key Stage 4 learning might consider progression to:

- A Levels as preparation for entry to higher education in a range of subjects
- study of a vocational qualification at Level 3, such as a BTEC National in Construction and the Built Environment, which prepares learners to enter employment or apprenticeships, or to move on to higher education by studying a degree in the construction or engineering sectors.

Learners who generally achieve at Level 1 across their Key Stage 4 learning might consider progression to:

- study at Level 2 post-16 in a range of technical routes designed to lead to work, to progression to employment via apprenticeships or further study at Level 3
- study at Level 2 post-16 through a technical qualification. Learners who perform well in this qualification compared to their overall performance, should strongly consider this progression route as it can lead to employment in the construction sector.

Pearson BTEC Level 1/Level 2 Tech Award in Construction and the Built Environment – Specification – Issue 4 – August 2023 © Pearson Education Limited 2023

2 Structure

Total Qualification Time

For all regulated qualifications, Pearson specifies a total number of hours that it is estimated learners will require to complete and show achievement for the qualification: this is the Total Qualification Time (TQT). Within the TQT, Pearson identifies the number of Guided Learning Hours (GLH) that we estimate a centre delivering the qualification might provide. Guided learning means activities such as lessons, tutorials, online instruction, supervised study and giving feedback on performance that directly involve teachers and assessors in teaching, supervising and invigilating learners. Guided learning includes the time required for learners to complete external assessment under examination or supervised conditions.

In addition to guided learning, other required learning directed by teachers or assessors will include private study, preparation for assessment and undertaking assessment when not under supervision, such as preparatory reading, revision and independent research.

The Pearson BTEC Level 1/Level 2 Tech Award in Construction and the Built Environment has:

- Total Qualification Time: 142.5 hours
- Guided Learning Hours: 120 hours.

Centres should take note of these hours in planning their programme but should also use their professional judgement to determine the provision of guided learning and study time across the components.

Components

Learners are required to complete and achieve all three components in the qualification.

Pearson BTEC Level 1/Level 2 Tech Award in Construction and the Built Environment				
Component number	**Component title**	**GLH**	**Level**	**How assessed**
1	Construction Technology	**48**	**1/2**	External
2	Construction in Practice	**36**	**1/2**	Internal
3	Construction and Design	**36**	**1/2**	Internal Synoptic

The three components focus on the assessment of applied knowledge, skills and practices. These are all essential to developing a basis for progression and therefore learners need to achieve all components in order to achieve the qualification.

The components are interrelated and they are best seen as part of an integrated whole rather than as totally distinct study areas. Learners will normally take this qualification over a two-year period or longer. This means that they must be given the opportunity to build their confidence in understanding the sector, vocational contexts and vocational attributes over a long period during the course of study before they are assessed. As the interrelated components are not linked to occupational roles, certification is not available at component level.

Assessment

The three components in the qualification give learners the opportunity to develop broad knowledge and understanding of the construction and built environment sector, and specialist skills such as interpreting and designing a low-rise construction to a brief, construction of a practical outcome to specification and ensuring quality of outcome at Levels 1 and 2.

Internal assessment – externally moderated

Components 2 and 3 are assessed through non-exam internal assessment. The non-exam internal assessment for these components has been designed to demonstrate application of the conceptual knowledge underpinning the sector through realistic tasks and activities. This style of assessment promotes deep learning through ensuring the connection between knowledge and practice. The components focus on:

- the acquisition of practical skills and techniques used in industry for safe working practices to create a practically constructed outcome to a specification in either brickwork or carpentry and joinery, and, quality control procedures to ensure an aesthetic, well-finished and accurate product
- the development and application of skills such as interpreting a brief to extract relevant information that will impact design ideas, principles of design, constraints of design, and sketching skills and techniques.

Non-exam internal assessment is delivered through Pearson-set Assignments. These assignments are set by Pearson, marked by the centre and moderated by Pearson.

For each component new assignments are released twice a year through the secure area of our website. Each Pearson-set Assignment will be clearly marked with the assessment series and academic year of release; centres must ensure that they are using the current series' assignment to assess their learners. Centres must use these assignments for summative assessments and the assignments must be completed under supervised conditions.

Centres will mark the completed assignments using the descriptors in the marking grid given in each component. Prior to submitting marks for moderation, where a learner has not achieved their expected level of performance for an assignment, the centre may authorise one opportunity for learners to improve evidence and resubmit for internal assessment within 15 working days.

Following submission of marks for moderation, there is no further opportunity to resubmit improved evidence based on the same completed assignment. Learners may be offered a single retake opportunity in a later assessment series using the new Pearson-set Assignment released for that assessment series. Retakes must be completed prior to or in the same series as the externally assessed component to meet terminal assessment requirements. For further information on the design of the assignments, retakes and the approach to marking, see *Section 5: Non-exam internal assessment*.

Component	Description of Pearson-set Assignment	Window for assessment
Component 2: Construction in Practice	Non-exam internal assessment set by Pearson, marked by the centre and moderated by Pearson. The Pearson-set Assignment will be completed in approximately 8 hours of supervised assessment. 60 marks.	**December/January and May/June from 2023 onwards**
Component 3: Construction and Design	Non-exam internal assessment set by Pearson, marked by the centre and moderated by Pearson. The Pearson-set Assignment will be completed in approximately 2 hours of monitored preparation and 6 hours of supervised assessment. 60 marks.	**December/January and May/June from 2023 onwards**

External assessment

There is one external assessment. *Component 1: Construction Technology* requires learners to understand the different areas of technology and the real-life application of these technologies in the UK and around the world.

The design of this external assessment ensures that there is sufficient stretch and challenge. It is based on a key tasks that requires learners to demonstrate they can identify and use effectively an appropriate selection of skills, techniques, concepts, theories and knowledge.

The external assessment takes the form of an external assessment, taken under supervised conditions, which is then marked and a grade awarded by Pearson. Learners are permitted to resit the external assessment during their programme by taking a new assessment. However, as this is the terminal assessment for the qualification, learners can only use the external assessment results achieved in the same assessment series in which they are requesting certification for the qualification. Centres should ensure that certification is not requested for any learners who intend to resit the external assessment until the resit is completed as it is the first assessment used for certification that will inform performance table points. The external assessment comprises 40 per cent of the total GLH of the qualification and is weighted accordingly in the calculation of the overall qualification grade.

This component should be delivered and assessed at the end of the course of study.

Component	Description of external assessment	Assessment
Component 1: Construction Technology	External assessment set and marked by Pearson, completed under supervised conditions. The assessment will be completed in 1.5 hours within the period timetabled by Pearson. 60 marks.	**January/ February and May/June from 2024 onwards**

Internal synoptic assessment

There is one internal synoptic assessment, Component 3, which provides the main synoptic assessment for the qualification. Component 3 builds directly on Components 1 and 2 and enables learning to be brought together and related to a real-life situation.

Component 3: Construction and Design requires learners to use knowledge about the construction industry gained from other components, including use and applications of different materials, estimate of cost of materials, and the properties of those materials. They should also show a developed understanding of how all construction is used in the real world and the potential constraints and issues when designing, such as local or sustainability issues.

The design of the assessment ensures that there is sufficient stretch and challenge, enabling the assessment of knowledge and understanding at the end of the learning period.

The assessment requires learners to demonstrate that they can identify and use effectively an appropriate selection of skills, techniques, concepts, theories and knowledge from across the mandatory components in an integrated way. Assignments will support learners in drawing knowledge and understanding from across the qualification.

This component should be assessed after the delivery of Components 1 and 2 and maybe assessed alongside the terminal external assessment Component 1.

Language of assessment

Assessment of the internal and external components for these qualifications will be available in English. All learner work must be in English. A learner taking the qualifications may be assessed in British Sign Language where it is permitted for the purpose of reasonable adjustment. For information on reasonable adjustments see *Section 9: Administrative arrangements.*

Grading of the qualification

This qualification has a grading scale that fully encompasses achievement at Levels 1 and 2 of the Regulated Qualifications Framework. This enables learners of all abilities to receive appropriate recognition of their achievement and will motivate them to improve and progress during their period of learning and formative assessment. This grading scale also gives clearer information for progression providers on the capability of learners to succeed in post-16 study programmes.

Non-exam internally-assessed components are assessed using a mark-based scale. Centres report marks which will be submitted for moderation. The externally-assessed component is marked externally by Pearson.

All components are awarded on a six-point grade scale from Level 1 Pass to Level 2 Distinction. Learners will receive a Uniform Mark for each component.

The qualification is graded over seven grades from Level 1 Pass to Level 2 Distinction*. The overall grade is a direct aggregation of performance across individual components, with each component weighted according to GLH. Please see *Section 8: Final grading and awarding* for more information on the approach we are using to grade qualifications.

3 Components

Understanding your components

The components in this specification set out details of all the knowledge and skills a learner must acquire and the assessment requirements that will support you in preparing your learners.

The components help you to undertake assessment and quality assurance effectively.

The tables here explain the key terms used for the internal and external components. It is important that all teachers, assessors, Programme Leads and other staff responsible for the delivery and quality assurance of the programme read and digest this section.

Internal assessment – externally moderated

Section	Explanation
Component in brief	This is a brief description of the content of the component. It can be used in summary documents, brochures, etc.
Component introduction	This is designed with learners in mind. It indicates why the component is important and how learning is structured. It might be applied when progressing to further study.
Learning outcomes	These define the scope of the knowledge and skills that a learner will acquire in the component.
Teaching content	This states the knowledge and skills that must be taught. All content is mandatory; however, some mandatory content statements may include examples, denoted as 'e.g.'. Content following 'e.g.' statements shows indicative content within a topic and is not mandatory, nor is it an exhaustive list of what should or could be covered. Centres should ensure that delivery of content is kept up to date. Some of the components within the specification may contain references to legislation, policies, regulations and organisations, which may not be applicable in the country you deliver this qualification in (if teaching outside of England), or which may have gone out-of-date during the lifespan of the specification. In these instances, it is possible to substitute such references with ones that are current and applicable in the country you deliver.
Suggestions for delivery	This gives you guidance on how you may choose to approach delivery of the components in the qualification.
Component assignment	This gives a description of the assignment for the component and how it should be delivered.

 © Pearson Education Limited 2023

Section	Explanation
Component marking grid	The marking grid details the descriptors across the four mark bands that teachers/assessors will use to determine the marks to be awarded to learners' assignment evidence.
Resource requirements	This section lists any specific resources that you need to be able to teach and assess. For information on support resources see *Section 10: Resources and support*.

Externally-assessed components

Section	Explanation
Component in brief	This is a brief description of the content of the component. It can be used in summary documents, brochures, etc.
Component introduction	This is designed with learners in mind. It indicates why the component is important and how learning is structured. It might be applied when progressing to further study.
Summary of assessment	This sets out the type of external assessment used and the way it is used to assess achievement.
Assessment objectives	These show the hierarchy of knowledge, understanding, skills and behaviours assessed.
Essential content	This gives the content that must be taught for the external assessment. Content will be sampled through the external assessment over time.

Component 1: Construction Technology

Levels: 1/2
Assessment type: External
Guided learning hours: 48

Component in brief

This component will develop knowledge and understanding of processes, terminology and technology used in the construction of the built environment.

Introduction

There are many different types of buildings we can construct and occupy across the UK. This component will initially examine the different forms of construction that can be used for low-rise (up to 5.2 metres in height) offices, retail units and homes. The use of prefabrication to construct buildings is now a sustainable method used to build quickly and reduce damage to the environment. You will examine the modern methods of construction that rely heavily on offsite prefabrication, which benefits the environment sustainably.

In understanding how to set up a site you, will examine the information that must be completed before starting work, along with the infrastructure you will need to put in place to run the job efficiently and safely.

Sub-structure works are one of the most important parts of a project as they have to safely support the superstructure that rests upon them. You will understand the methods used in constructing several different types of foundation and the safety aspects of supporting excavations while employees work within them. The removal of water from excavations must also be carefully considered.

Moving above the sub-structure, you will understand the need for provisions to stop damp rising, and the construction associated with the superstructure of a building. This is the part that has to be aesthetically pleasing, keep out the weather elements and ensure that the occupants are at a comfortable temperature.

You will develop a detailed understanding of how walls, floors, roofs and external works are constructed, and you will be able to name each component part, along with its functions. This will change with each different type of construction method that can be employed in a building.

Summary of assessment

An exam worth 60 marks will be completed under supervised conditions. The supervised assessment period is 1.5 hours and should be arranged in the period timetabled by Pearson. The assessment availability is January/February and May/June. First assessment is January/February 2024.

Sample assessment materials will be available to help centres prepare learners for assessment.

Assessment objectives

AO1 Demonstrate knowledge of work of the construction industry and the different technology used in low-rise construction projects

AO2 Demonstrate understanding of work of the construction industry and the different technology used in low-rise construction projects

A03 Be able to make connections between different construction technologies to ensure appropriateness of low-rise construction projects in different scenarios

Essential content

A Understand the performance requirements for low-rise construction

A1 Low-rise construction requirements

- Learners will need to know the different performance requirements that are necessary in the design of buildings:
  - strength
  - stability
  - fire resistance
  - thermal resistance
  - sound reduction and absorption
  - weather resistance.
- Learners will need to know the different types of structural load that a building must be able to resist:
  - self-weight
  - imposed
  - dynamic
  - snow
  - wind.
- Learners will need to understand the ways strength and stability in buildings are achieved by:
  - the use of tested materials, including:
    - grading of hard core
    - slump testing and compressive testing of concrete
    - stress grading of structural timber
    - mortar testing
    - compliance with building regulations
  - use of lateral and vertical restraint, including:
    - walls to floors
    - walls to roof
    - holding down straps
    - binders
    - wind bracing

- use of materials of known specification, including:
  - British Standards (BS)
  - National Building Specification (NBS)
  - strength classifications of:
    - concrete
    - mortar
    - timber
    - structural steel
    - reinforcement.

- Learners will need to understand the ways buildings and people are protected against fire by the:
  - use of fire-resistant materials, including:
    - plasterboard
    - concrete
    - blockwork
    - brickwork
    - intumescent paint
    - mineral wool
  - use of fire compartments and fire barriers intended to slow the spread of fires, including:
    - separating walls
    - separating floors
    - automatic door closers
    - fire-resistant doors
    - cavity fire barriers
    - fire dampers
  - use of methods to mitigate the effect of a fire, including:
    - fire alarm systems
    - smoke detection
    - sprinkler systems
    - fire hoses
    - fire extinguishers
    - fire blankets
    - refuge areas
    - fire escapes.
- Learners will need to understand how heat is retained in buildings by the use of insulation and draught proofing.
  - reasons for using thermal insulation and draught proofing:
    - to provide an acceptable U-value
    - to prevent the loss of heated air through gaps within a building or structure
    - to prevent the entry of cold air into a building.

 © Pearson Education Limited 2023

- ways in which heat is retained through:
  - the use of insulating components and materials, including:
    - aerated lightweight concrete blocks
    - lightweight screeds
    - double glazing
    - triple glazing
    - insulation (sheep's wool, mineral wool, fibreglass, cellulose, foam, polystyrene, hemp)
  - the use of different types of draught proofing, including:
    - silicone sealant
    - brush strips
    - expandable polyurethane foam
    - self-adhesive foam strip
    - warm air curtains
  - the placement of materials and components, including:
    - in cavities
    - on walls
    - in roofs
    - in floors
    - around openings
- understand the benefits and drawbacks of the types of materials and methods used.

- Learners will need to understand how the impact of internal and external noise can be reduced in buildings though restricting the passage of sound through the fabric of the building.
  - the reasons for using sound insulation and reduction methods:
    - to resist the passage of sound through a structure.
  - ways in which the passage of sound can be restricted through:
    - the use of components and materials, including:
      - triple glazing
      - high-density blockwork
      - sound insulation quilt
      - plasterboard layers
      - acoustic ceilings
      - acoustic panels
      - sealing/filler materials
      - acoustic isolating strips and flooring mats
    - the placement of components and materials, including:
      - floor, wall and ceiling construction between adjacent rooms and flats
      - party walls
      - internal partition walls
      - windows
      - doors

  - the use of construction detailing to prevent the transmission of noise, including:
    - adding material density
    - structural discontinuity
    - reduction of transference/vibration by using machinery isolators/rubber mountings
    - sound baffles
    - enclosures.
  - understand the benefits and drawbacks of the different materials used.
- Learners will need to understand the ways low-rise buildings are protected from water damage.
  - ways in which buildings are made water resistant:
    - water resistance methods used:
      - use of falls
      - use of cavities
      - use of weather drips
      - overhang projection
      - specification of impervious materials
      - thresholds
      - sills
      - sealants
      - weather strips
    - the use of water resistance materials and components:
      - selection of waterproof and impervious materials for the external building envelope
      - double glazing
      - weather seals and sealants
      - flashings
      - soffit boards
  - reasons for using water resistance methods:
    - to provide a dry internal environment
    - thermal comfort of occupants
    - humidity levels
    - prevention of damage to finishes
    - prevention of water staining
    - prevention of structural degradation.

 © Pearson Education Limited 2023

A2 Sustainability

- Learners must know the purpose of sustainable construction:
  - preservation of resources for future generations
  - minimising the impact of construction activities on the natural environment.
- Learners must know ways in which sustainable construction is achieved:
  - building orientation for light and heat in the UK, including the benefits available and drawbacks associated with summer heat gain
  - reduction in the use of greenfield sites
  - brownfield re-use of sites
  - recycling of waste materials
  - the use of recycled waste materials
  - the use of reclaimed materials
  - the use of low embodied energy materials
  - the use of renewable natural materials
  - the use of local suppliers
  - the use of prefabrication of components
  - the use of waste segregation
  - protection of trees and plants
  - relocation of animal habitats
  - bunded fuel storage
  - waste segregation
  - wheel cleaning
  - road cleaning
  - silt traps
  - incorporation of alternative energies:
    - wind
    - solar
    - ground source
    - air source
  - the use of sustainable materials:
    - hemp lime rendering finish
    - sheep's wool insulation
    - cellulose insulation
    - straw bale construction of walls
    - timber
    - cork.
- Understand the benefits and drawbacks of the different ways used.

A3 Common structural forms for low-rise construction

- Learners will need to understand the ways structural forms in low-rise construction are used and their features:
  - traditional cavity wall construction:
    - a form of cellular form of construction with load-bearing elements
    - brickwork and blockwork

  - blockwork outer and blockwork inner with external rendered finishes
  - roof
  - floors constructed in situ and bear directly onto walls
- modular construction:
  - use of standardised modules for repetition
  - use of stacking methods
  - use of a primary structural frame
  - placement and connection of modules
  - service connections
- timber-framed construction:
  - timber framing use
  - platform frames
  - position of insulation
  - vapour/moisture barriers
  - position of sheathing and breather membrane on panels
  - connection binder details
  - methods of tying external finish to supporting panel
  - formation of openings
  - fire stops
  - panel/secondary finishes:
    - brickwork
    - blockwork and render
    - insulation and timber cladding
    - hemp rendering
    - tiling
- low-rise steel frame construction:
  - portal frame
  - skeletal frame
  - column to base connections
  - column to beam connections
  - wind bracing
  - floor bearing
  - external cladding fixings.

- Learners will need to understand the benefits and drawbacks of the different structural forms used in low-rise construction.
- Learners will also need to be able to sketch, detail and annotate the different types and features of sub-structures.

B Explore how sub-structures are constructed

B1 Preconstruction work

- Learners will need to be able to identify the following desk-based preconstruction work that must be completed before work can begin on site.

- legal requirements:
  - construction health and safety plan
  - construction phase plan
  - method statements and risk assessments
  - informing the Health and Safety Executive (HSE)
  - liaison with principal designer
  - statutory notices.
- site layout plan indicating site accommodation:
  - offices
  - welfare facilities:
    - toilets
    - drying rooms
    - changing rooms
    - first aid room
  - canteens
  - storage accommodation
  - compounds
  - temporary roads and hard standing
  - fixed plant:
    - cranes
    - silos
    - hoists batching plant
  - fire precaution measures:
    - assembly points
    - fixed firefighting equipment
  - site boundaries
  - building footprint
  - existing services
  - traffic flow.
- producing a programme of work
- purchasing of resources
- organising safety signs.

- Learners will need to be able to understand the following site-based preconstruction work that will need to be completed before new construction can commence:
  - demolition and clearance of existing structures:
    - sustainable demolition and recycling on brownfield sites
    - underground obstructions, tanks, basements, foundations and services present on brownfield sites
    - decontamination work, including the removal of hazardous materials
    - tree removal and the impact on soil conditions
    - general site clearance of vegetation
  - enabling work:
    - protection of existing utility services (water, gas, electricity, drainage)
    - formation of access and egress routes
    - installation of temporary support to existing retained structures

- site set-up:
  - fencing
  - gates
  - closed circuit television (CCTV)
  - temporary lighting
  - installation of site accommodation and associated services
  - signage
  - creation of storage compounds and hard standing
- temporary works required to construct and support.

B2 Sub-structure groundworks

- Learners will need to know hazards and risks associated with groundworks, including control methods to complete the work safely:
  - collapse of the sides of the excavation
  - confined spaces
  - safe access and egress
  - overburden
  - likelihood of collapse due to type of soil
  - avoiding services
  - proximity of excavation plant
  - control of water:
    - temporary control of sub-soil and surface water during excavation (simple sump pumping)
    - permanent control of sub-soil water (land drainage).
- Learners will need to know how groundworks are constructed, including:
  - types of underground utility services:
    - gas supply
    - electricity supply
    - water supply
    - drainage
    - telecommunications
  - earthwork support:
    - steel trench sheets
    - timbering
    - hydraulic trench supports
    - interlocking sheet piling
    - trench box.

- Learners will need to know the construction and detailing of foundations and sub-structures.
  - function of a foundation:
    - to safely transmit the loads of the building to the sub-soil
    - to settle within acceptable limits
    - to support the loads of the building
    - to spread the load of the building over an area that the ground is capable of supporting
    - to transfer the loads to deeper, higher bearing capacity soils or rock.
  - the detailing of foundations, including the different types used to support a low-rise building and their selection and use for differing ground conditions:
    - strip
    - trench/mass fill
    - raft
    - short bored piles and ground beam
    - pad
  - the detailing of sub-structure walls:
    - engineering brickwork to damp-proof course (DPC) and cavity fill
    - use of trench blocks
    - weepholes
    - damp proof course (DPC) types and positions:
      - polythene
      - polyvinylchloride (PVC)
      - slate
      - class A engineering bricks
      - bitumen
  - understand how ground floors are detailed, constructed and supported:
    - solid concrete
    - suspended
    - beam and block
    - suspended timber floor
    - sub-floor ventilation
    - the insulation of ground floors to reduce heat losses
    - the use of damp proof membranes (DPM) under floors to prevent moisture transfer.
- Learners will need to understand the benefits and drawbacks of each type of foundation or sub-structure for different scenarios, including:
  - ground conditions
  - water table levels
  - presence of mature trees.
- Learners will also need to be able to sketch, detail and annotate the different types and features of sub-structures.

C Explore how superstructures are constructed

C1 Superstructures – walls

- Learners need to understand the functions and features of different walls used in the construction of superstructures in low-rise buildings.
  - functions of a wall:
    - resist heat transfer
    - reduce sound transmission
    - transfer loads to foundations
    - provide shelter
    - provide security
  - types of construction:
    - cavity masonry
    - timber frame
    - partitions:
      - timber
      - metal stud
      - solid blockwork
    - insulated panels:
      - structural insulated panels (SIPs)
  - features of walls, including:
    - materials used:
      - thin joint masonry
      - lightweight thermal blockwork
      - high-density blockwork
      - facing bricks
      - engineering bricks
      - stone
      - mortar
      - cavity wall insulation, including full-fill and partial fill
    - types of wall finishes:
      - rendered blockwork
      - facing brickwork (including pointing – bucket handle/tooled, recessed, weathered, flush)
      - tile hanging
      - timber boarding
    - wall openings and their functions:
      - provide ventilation
      - provide light
      - provide views
      - provide access
    - components of a wall opening:
      - lintel
      - sill
      - window
      - door

        - threshold
        - damp-proof course (DPC)
        - cavity trays
        - cavity closers
        - weepholes
    - detailing around wall openings:
        - heads
        - thresholds
        - sills and jambs: wall-tie spacing, damp proof courses (DPCs), cavity trays, sealants
    - functions of detailing:
        - prevention of damp transfer
        - continuity of insulation
        - maintaining structural integrity
        - load distribution.
- Learners will need to understand the benefits and drawbacks for architects, builders and the building users.
- Learners need to be able to sketch, detail and annotate the different types and features of walls.

C2 Superstructures – floors

- Learners will need to understand the functions, construction and detailing of floors used in the construction of superstructures in low-rise buildings.
    - types of floors:
        - solid
        - timber
        - precast concrete
        - beam and block
        - engineered timber
        - eco-joists
    - features of a floor:
        - functions of a floor:
            - to provide a level surface
            - to reduce sound transmission
            - to support and transfer loads to walls
            - to provide discreet distribution routes for services
        - materials used:
            - stress-graded timber joists
            - beam and block
            - eco-joists
            - engineered timber joists
            - precast concrete planks
            - concrete

  - types of floor finishes:
    - screeded
    - chipboard
    - moisture-resistant chipboard
    - tongue-and-grooved softwood floorboards
    - concrete to include: steel float finish, powerfloat finish, wood float finish, tamped finish
  - components of a floor:
    - supporting joists
    - trimming around openings
    - monolithic elements
    - floor covering
    - wall support
    - skirtings.

- Learners will need to be able to sketch and annotate the different types, details and features of floors.

C3 Superstructures – roofs

- Learners will need to understand the functions, construction and detailing of roofs used in the construction of superstructures in low-rise buildings.
  - types of construction:
    - flat
    - mono pitch
    - double pitch
    - gable end
    - hipped end
  - functions of a roof:
    - to provide a method of discharging rainfall away from the building
    - to waterproof the structure
    - to provide a recreational area
    - to provide additional accommodation/space
  - materials used:
    - treated softwood
    - breather membrane
    - tile felt
    - tile battens
    - ceramic roof tiles
    - concrete interlocking roof tiles
    - slate
    - mineral felt
    - glass reinforced plastic (GRP)
    - single-ply membranes

- types of roof finishes:
  - tile roofing
  - slate roofing
  - three-layer felt construction
  - single-ply membranes
- components of a flat roof:
  - wall plates
  - roof joists
  - firrings
  - fascia
  - soffit board
  - holding down straps
  - lateral restraint straps
  - guttering
  - downpipes
  - insulation
- components of a trussed rafter roof:
  - wall plates
  - trussed rafters
  - binders
  - diagonal wind bracing
  - fascia
  - bargeboard
  - valley board
  - soffit board
  - holding down straps
  - lateral restraint straps
  - guttering
  - downpipes
  - insulation
- components of a traditional cut rafter roof:
  - rafters
  - purlins
  - wall plates
  - ceiling joists
  - ridgeboard
  - fascia
  - bargeboard
  - valley board
  - soffit board
  - holding down straps
  - lateral restraint straps
  - guttering
  - downpipes
  - insulation.

- Learners will need to be able to sketch and annotate the different types, details and features of floors.

D Understand the work of the construction industry

D1 The type of work undertaken in the construction industry

- Learners should know the types of work that the construction industry undertakes and different examples of each type of work.
  - civil engineering construction, including:
    - railways
    - motorways
    - roads
    - bridges
    - airports
    - service distribution
    - sewers
    - tunnels
    - sea defences
    - flood defences
    - river and harbour works
    - renewable energies
  - industrial construction, including:
    - factories
    - workshops
    - industrial estates
    - warehousing
  - residential construction, including:
    - private housing
    - apartments
    - sheltered housing
    - social housing
  - commercial construction, including:
    - banks
    - offices
    - business parks
  - retail construction, including:
    - shops
    - supermarkets
    - retail shopping parks
    - shopping centres
  - healthcare construction, including:
    - hospitals
    - clinics
    - health centres
    - doctors' surgeries
  - education construction, including:
    - schools
    - colleges
    - universities
    - training centres

 © Pearson Education Limited 2023

- leisure and recreation construction, including:
  - leisure centres
  - cinemas
  - swimming pools
  - stadia
  - sports facilities
- other types of construction work, what is involved and the benefits provided to end users:
  - refurbishment of existing buildings
  - repairs and maintenance of building
  - estates management
  - facilities management.

D2 The construction industry and the built environment

- Transportation systems:
  - railways
  - tramways
  - underground
  - roads
  - cycle paths
  - flood defences and how they work to protect the community from flooding:
    - coastal defences, including: sea walls, groynes, gabions, revetments
    - tidal defences, including: barriers, gates, locks
    - river defences, including: walls, embankments, levees, bunds, reservoirs, weirs.

Key terms typically used in assessment

The following table shows the key terms that will be used consistently by Pearson in our assessments to ensure learners are rewarded for demonstrating the necessary skills.

Please note: the list below will not necessarily be used in every paper and is provided for guidance only.

Key words/Command verb	Definition
Describe	To give an account of something. Do not need to include a justification or reason.
Discuss	Consider the different aspects in detail of an issue, situation, problem or argument and how they interrelate.
Draw a line	Draw a line to match one feature/characteristic/ performance requirement to another.
Draw and label	Produce an annotated diagram of a construction method.
Explain	Present one point that identifies a reason, way, benefit, or importance etc and a second point that justifies/explains the first point. Where used, a third point is a further expansion of the justification/ explanation.
Give	Provide a response, i.e. feature, characteristic or use of.
Identify	Select the correct answer from the given context.
Label	Label the diagram and state what each [feature/ component /detail] is.
State	Recall from memory facts, terms, processes, legal implications etc. or provide the correct answer to the given context.

 © Pearson Education Limited 2023

Component 2: Construction in Practice

Levels: 1/2
Assessment type: Internal, externally moderated
Guided learning hours: 36

Component in brief

This component will introduce learners to commonly used hand tools, equipment and craft skills needed in the creation of the built environment and how to select and use materials in order to safely produce quality outcomes.

Introduction

The construction industry creates an environment that meets the needs, concerns and visions of the people who use it and is created with care and attention by dedicated construction workers who are highly trained in their chosen craft area. On-site construction work is very rewarding. Working closely with site managers and technicians, the craftsperson uses tools and equipment to create the built environment, turning dreams into reality. Everyone relies upon the construction craftsperson to provide the quality environment in which we live, work and relax.

In this component, you will learn and apply vocationally correct techniques to perform construction activities which include the appropriate selection and use of a range of tools to perform construction activities. In doing this you will develop some understanding of working safely in a craft role in the construction industry. You will also have to analyse hazards and risks and then complete some practical work in one of two craft areas: brickwork and carpentry and joinery.

You will complete an assessed practical activity in one craft area from the set assignments available to support the assessment of this component. You will showcase your applied knowledge and understanding in addition to your practical skills in this craft.

This component will enable you to gain an insight into the construction industry in order to facilitate your choice of pathway into further education to prepare you for a career in construction or related fields.

Learning outcomes

A Be able to understand hazards and risk for safe production of a practical construction outcome

B Be able to produce a practical construction outcome.

Teaching content

The following content has been divided into two sections, which will be dependent on the focus of the qualification for the learners, which are either: Brickwork or Carpentry and Joinery. The rider statement, prior to the division of content, which provides direction for teaching the content and expectations of breadth and depth of learning, is applicable to both craft areas.

Learning outcome A: Be able to understand hazards and risk for safe production of a practical construction outcome

A1 Risk assessments

Learners will need to understand the use of risk assessments in their practical learning environment. They will also need to analyse this environment to identify hazards and risks in order to produce an initial risk rating. They will need to make recommendations in order to minimise risk to people in their practical learning environment and produce a revised risk rating that shows their controls have brought the risk rating down to an acceptable level.

- Risk assessments.
- Hazard identification:
  - general workplace hazards
  - task-specific hazards
  - workshop-specific hazards
  - hazards associated with materials
  - hazards associated with tools and equipment
  - hazards associated with worker behaviour.
- Risk rating matrix:
  - severity of risk
  - likelihood of risk
  - risk score:
    - initial risk score
    - final risk score.
- People at risk:
  - personal risk
  - risk to colleagues
  - risks to visitors
  - risks to the general public and wider population.
- Control measures:
  - eliminating the risk
  - minimising the risk
  - generic control measures
  - task-specific control measures
  - existing control measures
  - use of trained personnel

 © Pearson Education Limited 2023

  - personal protective equipment (PPE):
    - general workplace PPE
    - task-specific PPE
  - signage
  - barriers.
- Recording and review:
  - requirements for recording risk assessments
  - requirements for periodic review.

A2 Measuring, marking and setting out

Learners will develop knowledge and understanding of the uses of different measuring, marking and setting-out tools used in the industry to construct a practical outcome. They will be able to demonstrate safe working and vocationally correct techniques when using these tools to accurately measure, mark and set out. Additionally, learners will understand how to correctly interpret construction specifications and drawings in order to measure, mark and set out materials to construct a practical outcome.

Brickwork

Measuring, marking and setting-out tools used for brickwork:

- Pencil (marker).
- Tape.
- Rule.
- Builder's square.
- Corner profiles.
- Gauge rod.
- Spirit level.
- Line and pins.
- Corner blocks.
- Tingle plate.
- Straight edge.

Vocational conventions in brickwork:

- Production and use of gauge rods.
- Bed joint markings.
- Setting up corners.
- Use of line, blocks and pins.

Carpentry and joinery

Measuring, marking and setting-out tools used for carpentry and joinery:

- Pencil.
- Tape.
- Folding rule.
- Try square.

- Combination square.
- Sliding bevel.
- Mitre square.
- Marking knife.
- Marking gauge.
- Mortise gauge.
- Straight edge.
- Setting-out rods.
- Jigs.
- Templates.

Vocational conventions in carpentry and joinery:

- Production and use of setting-out rods.
- Markings associated with carpentry and joinery:
  - face side
  - face edge
  - hatchings to cut/waste areas.

Generic across brickwork and carpentry and joinery

- Reading and interpretation of construction drawings:
  - plans
  - elevations
  - cross section details
  - common drawing scales used on construction drawings
  - fill patterns and symbols
  - dimensioning of construction drawings
  - commonly used abbreviations
  - methods of projection, to include:
    - orthographic
    - isometric
  - identifying materials required.
- Effective marking out:
  - accurate measuring using methods appropriate to the task
  - use of appropriate vocationally correct markings
  - checking accuracy of setting out prior to commencing practical activities
  - methods of checking for square.

A3 Tools and materials

Learners will understand the uses of different tools and materials used in the industry to construct a practical outcome. They will be able to demonstrate an understanding of safe working practices and vocationally correct techniques when using specific tools and materials.

Brickwork

Tools used in brickwork:

- Walling trowel.
- Pointing trowel.
- Jointing iron.
- Wheeled recessed jointer.
- Brick hammer.
- Club hammer.
- Bolster chisel.
- Spirit level.
- Gauge rod.

Materials used in the practical outcome:

- Facing bricks:
  - smooth-faced bricks
  - dragwire bricks.
- Engineering bricks:
  - class A
  - class B.

Materials used for bonding or jointing:

- Lime mortars.
- Cement lime mortars.
- Sand and cement mortars.
- Coloured mortars.

Carpentry and joinery

Tools used in carpentry and joinery:

- Mallet.
- Chisels:
  - bevelled
  - mortise.
- Saws:
  - tenon saw
  - universal saw
  - panel saw.

- Hammer:
  - claw hammer
  - pin hammer.
- Nail punch.
- Nail pincers.
- Screwdrivers:
  - slotted
  - Pozidriv
  - Phillips.
- Bradawl.
- Drill.
- Brace and bit.
- Smoothing plane.
- Block plane.
- Holding devices:
  - g-cramps
  - sash cramps
  - brand cramps.
- Bench hook.
- Woodworking bench with vice.

Main materials used in the practical outcome:

- Softwoods.
- Hardwoods.
- Manufactured boards.

Materials used for bonding or jointing:

- Adhesives:
  - polyvinyl acetate (PVA)
  - synthetic resin.
- Mechanical fixings:
  - nails
  - screws
  - star dowels
  - knock-down fixings.

Considerations of materials for brickwork and carpentry and joinery

- Appearance and aesthetics of materials.
- Ease of use of tools and materials.
- Durability of materials.
- Maintenance.
- Environmental factors that impact on the selection and use of materials.

- Minimisation of waste of materials:
  - accurate marking, setting out and cutting
  - identification of defects within the materials.
- Final evaluation of material:
  - decisions to use or reject the materials.

Learning outcome B: Be able to produce a practical construction outcome

B1 Jointing and incorporation of materials

Learners will develop knowledge and understanding of different methods and the vocationally correct techniques used in the construction of the practical outcome. They will need to demonstrate these methods and techniques when operating safely in the work environment.

Brickwork

- Bonds used in brickwork:
  - half brick wall in stretcher bond
  - one brick wall in English bond
  - English garden wall bond
  - Flemish bond
  - Flemish garden wall bond.
- Laying bricks:
  - preparation of the bed joint
  - buttering the brick
  - levelling the brick into the mortar bed
  - cutting and use of half batts and queen closers.
- Jointing types used in brickwork:
  - bucket handle
  - recessed
  - flush
  - weathered.
- Features used in brickwork:
  - patterns incorporating different coloured bricks
  - projecting features
  - recessed features
  - brick on edge or end soldier courses.
- Finishing and presentation:
  - removal of excess mortar
  - cleaning the brickwork.

Carpentry and joinery

- Wasting techniques:
  - cutting
  - drilling
  - chiselling
  - planing
  - sanding.
- Jointing techniques:
  - mitre
  - mortise and tenon
  - T bridle
  - corner bridle
  - corner halving
  - dovetail halving
  - tee halving
  - dowel joint
  - housing joint
  - lap joint.
- Assembly techniques:
  - use of adhesives
  - mechanical fixings
  - infill panels
  - mouldings
  - cappings.
- Finishing techniques:
  - surface filling
  - sanding.

B2 Accuracy in construction

Learners will develop knowledge and understanding of vocationally correct techniques for accuracy in the construction of the practical outcome. They will be able to demonstrate these skills to maintain their accuracy during construction.

Brickwork

Learners will use the following techniques to produce an accurate practical outcome:

- Production of a gauge rod and regular checking of course height.
- Using a tape to check for length.
- Using a spirit level to check for level and plumb.
- Using a straight edge to check for face plane deviation.
- Using a builders' square or 3:4:5 triangle to check 90° returns.

 © Pearson Education Limited 2023

Learners will work accurately to the following tolerances:

- Length +/− 5 mm.
- Height +/− 5 mm.
- Face plane deviation +/− 5 mm.
- Level +/− 5 mm.
- Plumb +/− 5 mm.

Carpentry and joinery

Learners must use the following techniques to produce an accurate practical outcome:

- Using a tape to check main dimensions.
- Measuring diagonals or using a squaring lathe to check for square.
- Using a try square to check for 90° angles.
- Trial assembly and visual checks.

Learners will work accurately to the following tolerances:

- Length +/− 3 mm.
- Height +/− 3 mm.
- Depth +/− 3 mm.
- Square +/− 4 mm.
- Joint gap +/− 1 mm.

B3 Dimension checks on final outcome

Learners will be able to demonstrate vocationally correct techniques to accurately measure the dimensions of their constructed outcome. They will be able to demonstrate applied knowledge to confirm whether their constructed outcome is within the specified tolerance for each measurement in B2 above.

Brickwork

- Dimensional accuracy:
  - height
  - width.
- Face plane deviation.
- Plumb.
- Level.
- Verticality of perpend joints.

Carpentry and joinery

- Dimensional accuracy:
  - length
  - height
  - width.
- Square:
  - diagonal 1
  - diagonal 2
  - differential between diagonal 1 and diagonal 2.

Suggestions for delivery

Successful delivery of this component will allow learners to develop their knowledge and understanding of practical skills used in construction for either brickwork or carpentry and joinery. At the end of the component, the learner will produce a completed practical outcome in a workshop or on-site environment where they have already completed a risk assessment individually, provided in the Pearson-set Assignment. When delivering the component and assessment, learner safety is paramount as they will be in environment and using tools that are hazardous and carry risk, so this should be factored into delivery and teaching.

You may choose to deliver this component alongside Component 3.

Assignments

Pearson sets the assignments for the assessment of this component.

The assignment for this component consists of three tasks.

- In response to Task 1, learners will use acquired knowledge and observation and analysis skills to show their awareness of hazards and risk in an area.
- In response to Task 2, learners will demonstrate practical skills with tools and materials, and planning and time management skills to create a constructed outcome to a brief.
- In response to Task 3, learners will demonstrate their applied knowledge and understanding in quality checking using specific measurement to identify quality.

The assignment will take approximately 8 supervised hours to complete.

The assignments will be marked by centres and moderated by Pearson. Assignments for this component will be made available in September and then January of each academic year through the secure area of the website. Learners must use the Pearson-set Assignment to provide the required evidence to achieve this component.

A sample assignment is provided on the website.

Assessing the assignment

You will make assessment decisions for each assignment using the marking grid given below. Before making assessment decisions, you should refer to the guidance on using the marking grid provided in *Section 5: Non-exam internal assessment*. A glossary of terms used in the marking grids is provided in *Appendix 1*.

For further information on using and assessing through assignments, see *Section 5: Non-exam internal assessment*.

 © Pearson Education Limited 2023

Marking grid

Mark Band 0	Mark Band 1	Mark Band 2	Mark Band 3	Mark Band 4
Task 1: Risk assessment **Learning outcome A: Be able to understand hazards and risks for safe production of a practical construction outcome**				
0 marks	**1 – 3 marks**	**4 – 6 marks**	**7 – 9 marks**	**10 – 12 marks**
No rewardable material	**Limited** application of the knowledge and understanding in completion of a risk assessment. Evidenced through: • a **narrow range** of relevant hazards associated with the completion of the task have been identified • a **few** risks associated with the potential hazards associated with the completion of the task have been identified • **some** of the people at risk are identified • a **few** risks associated with the completion of the task are appropriately rated for severity and likelihood, with an accurate calculation of initial and final risk rating	**Adequate** application of the knowledge and understanding in completion of a risk assessment. Evidenced through: • a **reasonable range** of relevant hazards associated with the completion of the task have been identified • **some** risks associated with the potential hazards associated with the completion of the task have been identified • **some** of the people at risk are identified • **some** risks associated with the completion of the task are appropriately rated for severity and likelihood, with an accurate calculation of initial and final risk rating	**Good** application of the knowledge and understanding in completion of a risk assessment. Evidenced through: • a **range** of relevant hazards associated with the completion of the task have been identified • **most** risks associated with the potential hazards associated with the completion of the task have been identified • **all** of the people at risk are identified • **most** risks associated with the completion of the task are appropriately rated for severity and likelihood, with an accurate calculation of initial and final risk rating	**Comprehensive** application of the knowledge and understanding in completion of a risk assessment. Evidenced through: • a **wide range** of relevant hazards associated with the completion of the task have been identified • **all** risks associated with the potential hazards associated with the completion of the task have been identified • **all** of the people at risk are identified • **all** risks associated with the completion of the task are appropriately rated for severity and likelihood, with an accurate calculation of initial and final risk rating

Mark Band 0	Mark Band 1	Mark Band 2	Mark Band 3	Mark Band 4
Task 1: Risk assessment *(continued)* **Learning outcome A: Be able to understand hazards and risks for safe production of a practical construction outcome**				
No rewardable material	• appropriate control measures are proposed to mitigate a **few** of the risks associated with the completion of the task.	• appropriate control measures are proposed to mitigate **some** of the risks associated with the completion of the task.	• appropriate control measures are proposed to mitigate **most** of the risks associated with the completion of the task.	• appropriate control measures are proposed to mitigate **all** of the risks associated with the completion of the task.

 © Pearson Education Limited 2023

Mark Band 0	Mark Band 1	Mark Band 2	Mark Band 3	Mark Band 4
Task 2: Constructing a practical outcome **Learning outcome B: Be able to produce a practical construction outcome**				
0 marks	**1 – 3 marks**	**4 – 6 marks**	**7 – 9 marks**	**10 – 12 marks**
No rewardable material	**Basic** demonstration of practical skills in measuring, marking and setting out the craft. Evidenced through: • **little** use of appropriate vocationally correct conventions and techniques when using tools and equipment for marking and setting out • production and use of rods that are marked with **little accuracy** and used **occasionally** during the construction of the product • measuring, marking and setting out of the product is dimensionally **accurate** for **little** of the craft area.	**Adequate** demonstration of practical skills in measuring, marking and setting out the craft. Evidenced through: • **some** use of appropriate vocationally correct conventions and techniques when using tools and equipment for marking and setting out • production and use of rods that are **mostly accurately** marked and used **occasionally** during the construction of the product • measuring, marking and setting out of the product is dimensionally **accurate** for **some** of the craft area.	**Good** demonstration of practical skills in measuring, marking and setting out the craft. Evidenced through: • **mostly consistent** use of appropriate vocationally correct conventions and techniques when using tools and equipment for marking and setting out • production and use of rods that are **mostly accurately** marked and **consistently** used during the construction of the product • measuring, marking and setting out of the product is **mostly** dimensionally **accurate** for the craft area.	**Excellent** demonstration of practical skills in measuring, marking and setting out the craft. Evidenced through: • **consistent** use of appropriate vocationally correct conventions and techniques when using tools and equipment for marking and setting out • production and use of rods that are **accurately** marked and **consistently** used during the construction of the product • measuring, marking and setting out of the product is **completely** dimensionally **accurate** for the craft area.

Mark Band 0	Mark Band 1	Mark Band 2	Mark Band 3	Mark Band 4
Task 2: Constructing a practical outcome **Learning outcome B: Be able to produce a practical construction outcome**				
0 marks	**1 – 3 marks**	**4 – 6 marks**	**7 – 9 marks**	**10 – 12 marks**
No rewardable material	**Basic** demonstration of practical skills and techniques in the construction of the product. Evidenced through: • vocationally correct practical techniques in **few** processes required for the production of the product • **occasional** use of vocationally correct practical skills in ongoing quality checks during the construction of the product • the additional feature is correctly positioned and incorporated into the product with **minimal** accuracy • maintaining a clean and tidy work area and adopting safe working practices **occasionally** during the construction of the product and **required regular intervention**.	**Adequate** demonstration of practical skills and techniques in the construction of the product. Evidenced through: • vocationally correct practical techniques in **some** processes required for the production of the product • **some** use of vocationally correct practical skills in ongoing quality checks during the construction of the product • the additional feature is correctly positioned and incorporated into the product with **some** degree of accuracy • maintaining a clean and tidy work area and adopting safe working practices **some** of the time during the construction of the product and **required occasional intervention**.	**Good** demonstration of practical skills and techniques in the construction of the product. Evidenced through: • vocationally correct practical techniques in **most** processes required for the production of the product • **mostly consistent** use of vocationally correct practical skills in ongoing quality checks during the construction of the product • the additional feature is correctly positioned and incorporated into the product with a **high** degree of accuracy • maintaining a clean and tidy work area and adopting safe working practices **most** of the time during the construction of the product and **required minimal intervention**.	**Excellent** demonstration of practical skills and techniques in the construction of the product. Evidenced through: • vocationally correct practical techniques in **all** processes required for the production of the product • **consistent** use of vocationally correct practical skills in ongoing quality checks during the construction of the product • the additional feature is correctly positioned and incorporated into the product with **complete** accuracy • maintaining a clean and tidy work area and adopting safe working practices at **all** times during the construction of the product with **no intervention required**.

 © Pearson Education Limited 2023

Mark Band 0	Mark Band 1	Mark Band 2	Mark Band 3	Mark Band 4
Task 2: Constructing a practical outcome **Learning outcome B: Be able to produce a practical construction outcome**				
0 marks	**1 – 3 marks**	**4 – 6 marks**	**7 – 9 marks**	**10 – 12 marks**
No rewardable material	**Limited** demonstration of practical skills in dimensional accuracy. Evidenced through: • a finish and appearance that is **infrequently** clean and has **some** construction damage • the finished product is **occasionally** compliant with the specification and drawing provided • **few** dimensions of the product are within specified tolerances.	**Adequate** demonstration of practical skills in dimensional accuracy. Evidenced through: • a finish and appearance that is **mostly** clean and has **some** construction damage • the finished product is **mostly** compliant with the specification and drawing provided • **some** dimensions of the product are within specified tolerances.	**Good** demonstration of practical skills in dimensional accuracy. Evidenced through: • a finish and appearance that is **mostly** clean and **free** of construction damage • the finished product is **mostly** compliant with the specification and drawing provided • **most** dimensions of the product are within specified tolerances.	**Excellent** demonstration of practical skills in dimensional accuracy. Evidenced through: • a finish and appearance that is **completely** clean and **free** of construction damage • the finished product is **fully** compliant with the specification and drawing provided • **all** dimensions of the product are within specified tolerances.

Mark Band 0	Mark Band 1	Mark Band 2	Mark Band 3	Mark Band 4
Task 3: Quality checks **Learning outcome B: Be able to produce a practical construction outcome**				
0 marks	**1 – 3 marks**	**4 – 6 marks**	**7 – 9 marks**	**10 – 12 marks**
No rewardable material	**Limited** practical skills in measuring and checking the dimensions of the finished product. Evidenced through: • **sometimes** uses correct techniques when using tools to measure required dimensions • records of measurement are **mostly** inaccurate with **significant** inconsistencies between learner and teacher measurements • **significant** errors in applying appropriate judgements relating to compliance with tolerance.	**Adequate** practical skills in measuring and checking the dimensions of the finished product. Evidenced through: • correct technique when using tools to measure **some** required dimensions • **some** records of measurement are inaccurate with **some** inconsistencies between learner and teacher measurements • **some** inconsistencies in applying appropriate judgements relating to compliance with tolerance.	**Good** practical skills in measuring and checking the dimensions of the finished product. Evidenced through: • correct technique when using tools to measure **most** required dimensions • records of measurement are **mostly** accurate and consistent with teacher measurements • **mostly** consistent in applying appropriate judgements relating to compliance with tolerance.	**Comprehensive** practical skills in measuring and checking the dimensions of the finished product. Evidenced through: • correct technique when using tools to measure **all** required dimensions • records of measurement are **fully** accurate and consistent with teacher measurements • **consistently** applying appropriate judgements relating to compliance with tolerance.

Please refer to *Section 5: Non-exam internal assessment* for further guidance on internal assessment, including how to apply these mark schemes to evidence.

 © Pearson Education Limited 2023

Resource requirements

For this component, learners must have access to*:*

- a workshop/on-site environment for a practical outcome
- materials listed in the Pearson-set Assignment for completion of the practical outcome
- equipment/tools listed in the specification for completion of the practical assignment.

Component 3: Construction and Design

Levels: 1/2
Assessment type: Internal, externally moderated – synoptic
Guided learning hours: 36

Component in brief

Learners will gain an understanding of clients' needs and develop skills in producing building design briefs and sketches that consider construction constraints.

Introduction

Have you ever wondered why buildings are very different in their design and function? Or why some buildings on the outside look the same as others, but on the inside, completely different to what was expected? In this component, you will develop your understanding of how design requirements can be developed through analysis of client requirements and needs for a new building, how to consider the external constraints on a development, and how both facets influence designing a solution for a client's needs.

Upon completion of this component, you will be able to create a developed design brief and generate a number of concept ideas that could meet with the client's approval. These ideas may have to fit in with the style of traditional buildings within a locality or could be a more modern contemporary design when there are no such constraints. These concepts are developed into a final design solution that can utilise a number of graphical communication methods, including sketching skills.

This component has synoptic assessment requiring you to select and integrate knowledge from across the qualification. Therefore, it should be taken at the end of the course of study.

The component will bring together knowledge and understanding from other components in order for you to gain an insight into the work of the designer. This will give you a broad understanding of construction and enable you to make informed choices when considering your post-16 education. It will facilitate pathways into technician or craft education and further training.

Learning outcomes

A Understand the needs of a client and the constraints on design when designing a low-rise building

B Be able to graphically communicate the design of a low-rise building.

Teaching content

Throughout this component, learners will be considering only low-rise construction designs. For clarity to all centres, these are limited to a maximum of two storeys in height.

Learning outcome A: Understand the needs of a client and the constraints on design when designing a low-rise building

A1 Client's needs

Learners will need to understand the client's needs for the building's use, including drawing on knowledge from other components. Additionally, learners will need to understand the differences and key external distinguishable features for the different styles.

- Building use:
  - industrial, e.g. factories, workshops, industrial estates, warehousing
  - residential, e.g. private housing, apartments, sheltered housing, social housing
  - commercial, e.g. banks, offices, business parks, science parks
  - retail, e.g. shops, retail shopping parks, shopping centres, kiosks
  - health, e.g. hospitals, clinics, health centres, doctors' surgeries
  - education, e.g. schools, colleges, universities, training centres
  - leisure and recreation, e.g. leisure centres, cinemas, sports facilities, libraries.
- Accommodation:
  - rooms:
    - size
    - function
  - space:
    - determination of floor area requirements
  - orientation:
    - relative to the local infrastructure
    - for access
    - to maximise the benefit of the surrounding environment
  - floors:
    - number of floors
    - use of roof space.
- Style and aesthetics:
  - external appearance and style
  - street scene and the local architectural style
  - internal:
    - open plan
    - internal features and design statements
  - preferred materials
  - colour
  - blending with local environment to minimise architectural impact
  - contrast with local environment for architectural impact.

- Sustainability – learners will need to consider the design requirements for the client's environmental and sustainable objective, which may exceed statutory requirements.
  - Materials:
    - initial environmental impact
    - impact of long-term maintenance
    - high specification low maintenance
    - low specification high maintenance
    - impact on initial and ongoing budget.
  - Thermal efficiency:
    - insulation levels
    - air tightness.
  - Alternative energies:
    - solar
    - wind
    - ground source heat pumps
    - air source heat pumps.
  - Orientation:
    - natural light benefits
    - solar gain benefits and drawbacks.
  - Carbon footprint analysis and impacts:
    - life cycle environmental analysis
    - Building Research Establishment Environmental Assessment Method (BREEAM).

A2 Constraints on design

Learners will need to understand other influences and constraints on design, which include:

- Resources:
  - budget:
    - determining the size of building that can be built within budget
    - floor area analysis
    - comparison with similar projects
    - initial costs and life cycle costs
    - level and range of specification available within budget
    - specialist skills required
    - contingency allowance
  - site:
    - area and shape of plot
    - location and local architectural style
    - access and pavement crossings
    - services: availability and location
    - ground conditions

  - building:
    - size or footprint
    - shape
    - structural form to include traditional and framed structures
    - materials
- Environmental:
  - flood risk
  - local climate.
- Local planning and building control requirements:
  - the National Planning Policy Frameworks (NPPF) and local development plans
  - building regulations
  - accessibility requirements
  - community consultations
  - planning objections
  - conservation areas.

A3 Client brief for a design of a low-rise building

Learners will need to analyse the client's needs and constraints on design to create appropriate design solutions, which consider:

- existing situation
- project requirements
- budget
- design factors and constraints
- specification for internal and external features
- client's vision
- end users.

Learning outcome B: Be able to graphically communicate the design of a low-rise building

B1 Development of sketching techniques

- Freehand sketching floor plans to approximate scale:
  - dimensioning of rooms
  - wall thickness techniques
  - graphical representation of windows, doors and components in the plan view.
- Freehand sketching external views using 3D sketching techniques:
  - two-point perspective techniques
  - isometric projection
  - use of line thickness techniques to enhance 3D effect
  - sketching curved surfaces and ellipses.

B2 Generation of sketch ideas in response to client needs

- The design of attractive, aesthetically pleasing structures and buildings:
  - designing for appearance and aesthetics
  - designing for sustainability
  - designing for functionality
  - designing for occupant and public safety.
- Concept ideas for external appearance.
- Concept ideas for internal layout.
- Annotations and labelling:
  - room name
  - floor area
  - circulation and flow
  - main features of design
  - aesthetic features
  - construction form:
    - framed structures
    - traditional construction
    - timber frame
  - build-up of key building elements.

Suggestions for delivery

Successful delivery of this component will allow learners to develop their applied knowledge and skills in designing a brief to present to a client alongside sketches of their design, which may be new skills learned in this component. Therefore, in delivery, learners should have all specialist materials, e.g. pencils, rulers, available.

You may choose to deliver this component alongside Component 1.

Assignments

Pearson sets the assignments for the assessment of this component.

The assignment for this component consists of two tasks.

- In response to Task 1, learners will use their applied knowledge and understanding throughout this component in addition to the synoptic elements to produce a client brief by analysing information presented in a brief.
- In response to Task 2, learners will demonstrate practical skills in sketching, projection and communication that have been developed in this component. They will produce a range of 2–3 sketches to clearly communicate a design solution that adheres to the design constraints and client information given to learners.

The assignment will take 2 hours of monitored preparation and approximately 6 supervised hours to complete.

The assignments will be marked by centres and moderated by Pearson. Assignments for this component will be made available in September and then January of each academic year through the secure area of the website. Learners must use the Pearson-set Assignment to provide the required evidence to achieve this component.

A sample assignment is provided on the website.

Assessing the assignment

You will make assessment decisions for each assignment using the marking grid given below. Before making assessment decisions, you should refer to the guidance on using the marking grid provided in *Section 5: Non-exam internal assessment*. A glossary of terms used in the marking grids is provided in *Appendix 1*.

For further information on using and assessing through assignments, see *Section 5: Non-exam internal assessment*.

Marking grid

Mark Band 0	Mark Band 1	Mark Band 2	Mark Band 3	Mark Band 4
Task 1: Design brief (synoptic) **Learning outcome A: Understand the needs of a client and the constraints on design when designing a low-rise building**				
0 marks	**1 – 3 marks**	**4 – 6 marks**	**7 – 9 marks**	**10 – 12 marks**
No rewardable material	**Limited** applied knowledge and understanding of how the client requirements impact on building design. Evidenced through: • a **simple** account which interprets the client's profile in the building design • a **simple** account which interprets the client's needs in the building design • a **simple** account which interprets the client's lifestyle requirements in the building design.	**Adequate** applied knowledge and understanding of how the client requirements impact on building design. Evidenced through: • a **partially developed** account which interprets the client's profile in the building design • a **partially developed** account which interprets the client's needs in the building design • a **partially developed** account which interprets the client's lifestyle requirements in the building design.	**Good** applied knowledge and understanding of how the client requirements impact on building design. Evidenced through: • a **mostly developed** account which interprets the client's profile in the building design • a **mostly developed** account which interprets the client's needs in the building design • a **mostly developed** account which interprets the client's lifestyle requirements in the building design.	**Comprehensive** applied knowledge and understanding of how the client requirements impact on building design. Evidenced through: • a **fully developed** account which interprets the client's profile in the building design • a **fully developed** account which interprets the client's needs in the building design • a **fully developed** account which interprets the client's lifestyle requirements in the building design.

 © Pearson Education Limited 2023

Mark Band 0	Mark Band 1	Mark Band 2	Mark Band 3	Mark Band 4
Task 1: Design brief (synoptic) **Learning outcome A: Understand the needs of a client and the constraints on design when designing a low-rise building**				
0 marks	**1 – 3 marks**	**4 – 6 marks**	**7 – 9 marks**	**10 – 12 marks**
No rewardable material	**Limited** applied knowledge and understanding of the external design constraints, relative to the location and scenario. Evidenced through: • a **simple** analysis of **few** of the relevant street scene constraints for the local area and considerations for style and aesthetics • a **simple** analysis of the access issues and services available for the plot of land in the scenario.	**Adequate** applied knowledge and understanding of the external design constraints, relative to the location and scenario. Evidenced through: • a **partially developed** analysis of **some** of the relevant street scene constraints for the local area and considerations for style and aesthetics • a **partially developed** analysis of the access issues and services available for the plot of land in the scenario.	**Good** applied knowledge and understanding of the external design constraints, relative to the location and scenario. Evidenced through: • a **mostly developed** analysis of **most** of the relevant street scene constraints for the local area and considerations for style and aesthetics • a **mostly developed** analysis of the access issues and services available for the plot of land in the scenario.	**Comprehensive** applied knowledge and understanding of the external design constraints, relative to the location and scenario. Evidenced through: • a **fully developed** analysis of **all** of the relevant street scene constraints for the local area and considerations for style and aesthetics • a **fully developed** analysis of the access issues and services available for the plot of land in the scenario.

Mark Band 0	Mark Band 1	Mark Band 2	Mark Band 3	Mark Band 4
Task 1: Design brief (synoptic) **Learning outcome A: Understand the needs of a client and the constraints on design when designing a low-rise building**				
0 marks	**1 – 3 marks**	**4 – 6 marks**	**7 – 9 marks**	**10 – 12 marks**
No rewardable material	**Limited** applied knowledge and understanding of budget and costing to meet the client's requirements. Evidenced through: • a **simple** analysis of the client's budget to determine the size of building and level of specification that can be designed • a **simple** rationale which contains **few** of relevant specification points to meet the needs of the client within the constraints of the scenario.	**Adequate** applied knowledge and understanding of budget and costing to meet the client's requirements. Evidenced through: • a **partially developed** analysis of the client's budget to determine the size of building and level of specification that can be designed • a **partially developed** rationale which contains **some** of relevant specification points to meet the needs of the client within the constraints of the scenario.	**Good** applied knowledge and understanding of budget and costing to meet the client's requirements. Evidenced through: • a **mostly developed** analysis of the client's budget to determine the size of building and level of specification that can be designed • a **mostly developed** rationale which contains **most** of relevant specification points to meet the needs of the client within the constraints of the scenario.	**Comprehensive** applied knowledge and understanding of budget and costing to meet the client's requirements. Evidenced through: • a **fully developed** analysis of the client's budget to determine the size of building and level of specification that can be designed • a **fully developed** rationale which contains **all** of relevant specification points to meet the needs of the client within the constraints of the scenario.

 © Pearson Education Limited 2023

Mark Band 0	Mark Band 1	Mark Band 2	Mark Band 3	Mark Band 4
Task 2: Concept sketches (synoptic) **Learning outcome B: Be able to graphically communicate the design of a low-rise building**				
0 marks	**1 – 3 marks**	**4 – 6 marks**	**7 – 9 marks**	**10 – 12 marks**
No rewardable material	**Limited** demonstration of design skills. Evidenced through: • concept sketches that address **few** of the requirements of the client • concept sketches that **occasionally** mitigate external constraints through appropriate building size, building position and orientation, and its features • concept sketches that **occasionally** address the approach to harmonising with local architectural style.	**Adequate** demonstration of design skills. Evidenced through: • concept sketches that address **some** of the requirements of the client • concept sketches that **partially** mitigate external constraints through appropriate building size, building position and orientation, and its features • concept sketches that **partially** address the approach to harmonising with local architectural style.	**Good** demonstration of design skills. Evidenced through: • concept sketches that address **most** of the requirements of the client • concept sketches that **mostly** mitigate external constraints through appropriate building size, building position and orientation, and its features • concept sketches that **mostly** address the approach to harmonising with local architectural style.	**Comprehensive** demonstration of design skills. Evidenced through: • concept sketches that address **all** of the requirements of the client • concept sketches that **fully** mitigate external constraints through appropriate building size, building position and orientation, and its features • concept sketches that **fully** address the approach to harmonising with local architectural style.

Mark Band 0	Mark Band 1	Mark Band 2	Mark Band 3	Mark Band 4
Task 2: Concept sketches (synoptic) **Learning outcome B: Be able to graphically communicate the design of a low-rise building**				
0 marks	**1 – 3 marks**	**4 – 6 marks**	**7 – 9 marks**	**10 – 12 marks**
No rewardable material	**Limited** demonstration of communication in the concept sketches. Evidenced through: • **little** clarity in graphical techniques with **low** level of accuracy • **limited** level of control and **little** appropriate use of varying line thickness • **little** clarity in the annotation of the detail and key features of the design.	**Adequate** demonstration of communication in the concept sketches. Evidenced through: • **some** clarity in graphical techniques with **some** level of accuracy • **adequate** level of control and **some** appropriate use of varying line thickness • **some** clarity in the annotation of the detail and key features of the design.	**Good** demonstration of communication in the concept sketches. Evidenced through: • **mostly** clear graphical techniques with **good** level of accuracy • **good** level of control and **mostly** appropriate use of varying line thickness • **mostly** clear annotation of the detail and key features of the design.	**Comprehensive** demonstration of communication in the concept sketches. Evidenced through: • **complete** clarity in graphical techniques with **high** level of accuracy • **high** level of control with **deliberate** and **fully** appropriate use of varying line thickness • **complete** clarity in the annotation of the detail and key features of the design.

Please refer to *Section 5: Non-exam internal assessment* for further guidance on internal assessment, including how to apply these mark schemes to evidence.

 © Pearson Education Limited 2023

Links to other components

The table below illustrates how knowledge, understanding and skills from components across this qualification could be integrated to the delivery of this component. The skills support learners in making a synoptic response.

Component	Material from the component that learners could select and integrate in their synoptic assessment response to Component 3
Component 1: Construction Technology	• A1: Low-rise construction requirements • A2: Sustainability • A3: Common structural forms for low-rise construction • B1: Preconstruction work • B2: Sub-structure groundworks • C1: Superstructures – walls • C2: Superstructures – floors • C3: Superstructures – roofs
Component 2: Construction in Practice	• A2: Measuring, marking and setting out: interpretation of construction drawings • A3: Tools and materials: considerations of materials for Brickwork and Carpentry and Joinery

Resource requirements

For this component, learners must have access to*:*

- sketching materials
- A4/A3 paper.

4 Planning your programme

Is there a learner entry requirement?

As a qualification designed to be used in Key Stage 4, there are no formal entry requirements. It is assumed that learners are studying GCSEs and other qualifications alongside this qualification. As a centre, it is your responsibility to ensure that learners who are recruited make reasonable progress and are likely to achieve at this level. Overall achievement can be improved by highlighting links between this qualification and other qualifications as part of a Key Stage 4 programme of learning, such as through project-based learning.

What level of sector knowledge is needed to teach this qualification?

We do not set any requirements for teachers but recommend that centres assess the overall skills and knowledge of the teaching team to ensure that they are relevant and up to date. This will give learners a rich programme that will prepare them for progression.

What resources are required to deliver this qualification?

As part of your centre approval, you will need to show that the necessary material resources and workspaces are available to deliver the qualifications. For some components, specific resources are required; please refer to individual components.

How does this qualification contribute to Key Stage 4 learning?

This qualification gives learners opportunities to apply learning from GCSE English, science and mathematics to vocational learning. For example, the skills developed in extended writing can be applied when producing a client brief or communicating the design. Science skills can be applied when observing the properties of different materials and technologies used in construction and mathematic skills can be applied when assessing the budget and cost per square metre in the Component 3 design brief.

What makes good vocational teaching?

The approach to vocational teaching must be led by what is right for the particular sector. For vocational teaching to be effective, it is important that teaching and learning are contextualised to the relevant sector. Therefore, we have provided delivery guidance for each component and other resources, such as Schemes of Work, to help you build a course that contextualises learning in real-life and/or employment scenarios. This draws naturally on the kind of broader attributes valued in the sector, for example when working in a workshop environment following specific safe working practices, i.e. specialist safety clothing and/or footwear, as well as the more general skills needed in work that fit well with project-based learning, for example teamwork and independent learning.

5 Non-exam internal assessment

Pearson-set Assignments

In this qualification, there are two non-exam internally-assessed components, which will be assessed through Pearson-set Assignments.

These assignments are set by Pearson and are summative assessments, which means they are distinct periods of assessment that are separate from the practice, exploration activities and formative assessments that have been used during the learning period. It is important that you explain to learners that these assignments are being used to formally assess their performance against the learning outcomes.

Each Pearson-set Assignment will:

- provide a vocational context to engage learners and to set the scene for the tasks to be completed across all the learning outcomes. In some instances, you can adapt the context to make it more relevant to your learners; the guidance provided within each assignment will clearly state whether there are opportunities to contextualise
- give learners clear tasks with the associated marks and the approximate time to complete each task
- give clear structures for evidence and specify the form(s) of evidence that learners should produce
- ensure that learners are drawing on the specified range of teaching content
- allow learners to select and apply their learning using appropriate self-management of tasks if a component contains synoptic assessment.

For each component, new Pearson-set Assignments are released twice a year through the secure area of our website. Release dates will vary by sector; please refer to individual components for the annual release date of the assignments. Each Pearson-set Assignment will be clearly marked with the assessment series and academic year of release; you must ensure that you are using the current series' assignment to assess your learners.

Each Pearson-set Assignment is to be issued to learners with a defined start date and completion date set by the centre and clear requirements for the evidence that they need to provide. You will need to give learners a guide that explains how these assignments are used for assessment, how they relate to the teaching programme, and how learners should use and reference source materials, including what would constitute plagiarism. The guide should also set out your approach to operating assessment, such as how learners must submit work and request extensions.

All Pearson-set Assignments must be completed under supervised conditions; please refer to the guidance in the Pearson-set Assignment for individual components for any supervision requirements specific to each assignment.

Sample Pearson-set Assignments for internal components

Each non-exam internally-assessed component has a sample Pearson-set Assignment that accompanies this specification. This sample assignment is an example of what the assessment will look like in terms of the feel and level of demand of the assessment.

The sample assignment shows the nature of the tasks that may appear in the live Pearson-set Assignments and will give you a good indication of how the assessments will be structured. While the sample Pearson-set Assignment can be used for practice with learners, as with any assessment the content covered and specific details of the tasks may vary in each live Pearson-set Assignment; however, the marking grids will remain unchanged.

The sample Pearson-set Assignment can be downloaded from our website. This is for you to use and mark as you wish. Pearson does not mark sample Pearson-set Assignments.

Marking Pearson-set Assignments

Live Pearson-set Assignments are marked by the centre and will be moderated by a moderator appointed by Pearson. Centres are responsible for appointing someone to act as the assessor. This may be you (the teacher who has delivered the programme) or another teacher from the subject team.

Learners' evidence for a Pearson-set Assignment must be marked using the marking grid for that particular component. Each learner's marks are to be recorded on an Assessment Record Sheet (or centre devised documentation) and authenticated by the learner and Assessor. The Assessment Record Sheet is also required to be submitted with the learner's work for moderation.

The marking grid has four mark bands, each containing the descriptors specifying the level of knowledge, understanding and skills that learners are required to demonstrate to be awarded the marks associated with that band for each task. The descriptors for each band are written to reflect the marks at the top of the mark band; the descriptors should be read and applied as a whole.

Using a 'best fit approach' to marking the assignments

In applying the marking grid, you are required to first make a holistic judgement about which mark band most closely matches the learner's response for the evidence being assessed. Each mark band contains a number of 'bulleted traits' that in combination provide a descriptor of the learner's expected performance in relation to the individual task within the assignment. Consideration should also be given to the descriptors in the mark bands above and below to ensure the correct band is selected. The learner's response does not have to meet all the characteristics of a mark band's descriptor before being placed in that band, as long as it meets more of the characteristics of that mark band than of any other.

After placing the learner's response within a mark band, you should then make a more refined judgement as to whether the learner's response is towards the higher or the lower end of the range for that band and allocate a final mark accordingly within the marks available in that band.

 © Pearson Education Limited 2023

Further guidance on deciding a final mark

The award of marks must be directly related to the descriptors in a mark band. You should be prepared to use the full range of marks available. When deciding upon a final mark, you should take into account how well the learner's response meets the requirements of the descriptor in that mark band.

- If the learner's response meets the requirements of the descriptor fully, you should be prepared to award full marks within the mark band. The top mark in the band is used for a learner's response that is as good as can realistically be expected in that band.
- If the learner's response only barely meets the requirements of the descriptor (but is better than the previous descriptor), you should consider awarding marks at the bottom of the mark band. The bottom mark in the band is used for a learner's response that is the weakest that can be expected in that mark band.
- The middle marks of the mark band are for a learner's response that is a reasonable match to the descriptor. This might represent a balance between some characteristics of the descriptor that are fully met and others that are barely met.
- Where there is no evidence worthy of credit, no marks (0 marks) must be awarded.

Authenticity of learner work

You must ensure that learner evidence is authentic by supervising them during the assessment period according to the requirements of each internally-assessed component. You must take care not to provide direct input, instructions or specific feedback that may compromise authenticity.

Once an assessment has begun, learners must not be given feedback that relates specifically to their evidence and how it can be improved, as learners must work independently.

You must assess only learner work that is authentic, i.e. learners' own independent work. Learners must authenticate the evidence that they provide for assessment through signing a declaration stating that it is their own work.

You must complete a declaration that:

- the evidence submitted for this assignment is the learner's own
- the learner has clearly referenced any sources used in the work
- you understand that false declaration is a form of malpractice.

Centres can use Pearson templates or their own templates to document authentication.

During assessment, if you suspect that some or all of the evidence from a learner is not authentic, you must take appropriate action using the centre's policies for malpractice. Further information is given in *Section 9: Administrative arrangements*.

Resubmission of evidence and retakes

Prior to submitting marks for moderation, where a learner has not achieved their expected level of performance for an assignment, the centre may authorise one opportunity for learners to improve evidence and resubmit for internal assessment within 15 days. Internal assessment should be conducted in time to allow for this resubmission window prior to moderation should it be needed.

Feedback to learners can only be given in order to clarify areas where they have not achieved expected levels of performance. Learners cannot receive any specific guidance or instruction about how to improve work to meet mark bands, or be given solutions to questions or problems in the tasks.

Following submission of marks for moderation, there is no further opportunity to resubmit improved evidence based on the same completed assignment. Learners may be offered a single retake opportunity in a later assessment series using the new Pearson-set Assignment released for that series. Retakes must be completed prior to or in the same series as the externally assessed component to meet terminal assessment requirements.

For further information on offering resubmission of evidence and retake opportunities, giving feedback, conditions for supervision and planning, and record-keeping requirements, you should refer to the centre guidance for internal assessment for BTEC Tech Awards, available on our website. All members of the assessment team need to refer to this document.

Internal standardisation

If there are a number of staff acting as assessors for this qualification, prior to internal assessment, you must carry out internal standardisation to make sure all learners' work is assessed consistently to the required standard.

If you are the only assessor in your centre for this qualification, it is still advisable to make sure your assessment decisions are internally standardised by someone else in your centre. This could be someone who has experience of the nature of this qualification or relevant subject knowledge.

Pearson will supply standardisation materials giving assessors the opportunity to discuss standardised learner work, assessment and administration.

Marking should be applied consistently as adjustments made through moderation can affect the whole cohort. Effective internal standardisation ensures that the work of all learners at the centre is marked to the same standard. It may not be possible for moderation to take place if effective internal standardisation has not been carried out.

You are not required to submit evidence of internal standardisation of assessment decisions to the moderator, but it must be retained in the centre should Pearson request it, or where there is a disagreement with the marking.

If it appears to the Pearson moderator that internal standardisation has not been carried out, they may discontinue the moderation process. The centre will then be required to remark all learners' work and carry out internal standardisation; another moderation activity will then be scheduled at the centre's expense. Submission of marks will be considered as confirmation that internal standardisation has taken place.

Moderation

The purpose of external moderation is to ensure that the standard of marking is the same for each centre and across different assessors within a centre.

There are two annual moderation windows, December/January and May/June; the first moderation window for this qualification is December/January 2023.

Centres must ensure that they plan their assessment so that they can make the necessary entries and submit marks to meet the moderation deadlines. More details are provided in the *Administrative Support Guide*.

6 Quality assurance

Centre and qualification approval

As part of the approval process, your centre must make sure that the resource requirements listed below are in place before offering the qualification.

- Centres must have appropriate physical resources (for example equipment, IT, learning materials, teaching rooms) to support the delivery and assessment of the qualification.
- Staff involved in the assessment process must have relevant expertise and/or occupational experience.
- There must be systems in place to ensure continuing professional development for staff delivering the qualification.
- Centres must have in place appropriate health and safety policies relating to learners' use of equipment.
- Centres must deliver the qualification in accordance with current equality legislation.
- Centres should refer to the teacher guidance section in individual components to check for any specific resources required.

Continuing quality assurance

The key principles of quality assurance are that:

- a centre delivering BTEC programmes must be an approved centre, and must have approval for the programmes or groups of programmes that it is delivering
- the centre agrees, as part of gaining approval, to abide by specific terms and conditions around the effective delivery and quality assurance of assessment; it must abide by these conditions throughout the period of delivery
- Pearson makes available to approved centres a range of materials and opportunities, intended to exemplify the processes required for effective assessment, and examples of effective standards. Approved centres must use the materials and services to ensure that all staff delivering BTEC qualifications keep up to date with the guidance on assessment
- an approved centre must follow agreed protocols for standardisation of assessors, for the planning, monitoring and recording of assessment processes, and for dealing with special circumstances, appeals and malpractice.

We will make sure that each centre follows best practice and employs appropriate technology to support quality-assurance processes, where practicable. We work to support centres and seek to make sure that our quality-assurance processes do not place undue bureaucratic processes on centres. We monitor and support centres in the effective operation of assessment and quality assurance.

The methods we use to do this for BTEC Tech Award qualifications include:

- making sure that all centres complete appropriate declarations at the time of approval
- undertaking approval visits to centres
- making sure that centres have effective teams of assessors who are trained to undertake assessment
- assessment moderation, through requested samples of assessments, completed assessed learner work and associated documentation
- an overarching review and assessment of a centre's strategy for delivering and quality assuring its BTEC programmes, for example making sure that the synoptic component is placed appropriately in the delivery of the programme.

Centres that do not fully address and maintain rigorous approaches to delivering, assessing and quality assurance cannot seek certification for individual programmes or for the BTEC Tech Award qualifications. An approved centre must make certification claims only when authorised by us and strictly in accordance with requirements for reporting.

7 External assessment

Role of external assessment for the BTEC Tech Award suite

The externally-assessed component in the BTEC Tech Award suite comprises 40 per cent of the total qualification GLH. The external assessment is weighted to contribute the same proportion of the overall qualification grade. The external assessment is rigorous but fully valid as preparation for progression to vocational qualifications.

This section gives an overview of the key features of external assessment and how you, as an approved centre, can offer it effectively.

External assessment

The *Summary of assessment* section in Component 1 sets out the specific arrangements for the external assessment. The expected evidence that must be submitted is explained in the component and sample assessment materials (SAMs). Your learners will undertake the external assessment during the period timetabled by Pearson.

Timing of external assessment

External assessments for this qualification are available twice a year in January/February and May/June. First assessment is January/February 2024. Learners are permitted to have one resit of an external assessment prior to certification by taking a new assessment.

As this is the terminal assessment for the qualification, learners can only use the external assessment results achieved in the same assessment series in which they are requesting certification for the qualification. Centres should ensure that certification is not requested for any learners who intend to resit the external assessment until the resit is completed as it is the first assessment used for certification that will inform performance table points.

Sample assessment materials

Each externally-assessed component has a set of SAMs that accompanies this specification. SAMs are there to give you an example of what the external assessment will look like in terms of the feel and level of demand of the assessment.

The SAMs show the range of possible activity types that may appear in the actual assessments and give you a good indication of how the assessments will be structured. While SAMs can be used for practice with learners, as with any assessment the content covered and specific details of the activities will vary in each assessment.

These sample assessments can be downloaded from our website. We will provide further materials over time to support assessment, for example sample marked learner work, further sample materials and examiner feedback.

 © Pearson Education Limited 2023

Conduct of external assessment

The external assessment is set and marked by Pearson. You need to ensure that learners are aware that they need to work independently and of the requirements for any external assessment.

We define the degree of control for assessments for BTEC qualifications in this specification as:

- **high control**
  this is the completion of assessment in formal invigilated examination conditions.

Further information on responsibilities for conducting external assessment is given in the document ***Instructions for Conducting External Assessments (ICEA)***, available on our website, qualifications.pearson.com (search for *ICEA*).

Pearson marking

Marking

Pearson will allocate standardised examiners to mark the evidence remotely. Your Examinations Officer will be given guidance as to how to send this evidence to us or the examiner directly.

We review quality of marking throughout the marking period and ensure that our examiners mark to the agreed marking scheme during this time.

8 Final grading and awarding

Awarding and reporting for the qualification

The BTEC Tech Award qualifications will be graded and certificated on a seven-grade scale from Level 2 Distinction* to Level 1 Pass. Individual components will be graded on a six-point scale from Level 2 Distinction to Level 1 Pass. Individual component results will be reported.

Learners who do not meet the minimum requirements for a qualification grade to be awarded will be recorded as Unclassified (U) and will not be certificated.

Grade boundaries will be set for each component in the series in which it is offered through a process known as awarding. Awarding is used to set grade boundaries and ensure that standards are maintained over time. This is important as we must ensure that learners have the same opportunity to achieve, regardless of the assessment opportunity.

Learners' raw component marks will be converted to a Uniform Mark Scale (UMS). The UMS is used to convert learners' component 'raw' marks into uniform marks. This is done in order to standardise marks from one series to another. (Further details of the UMS are provided below in the section 'Calculation of a Qualification Grade').

The awarding and certification of the qualification will comply with the requirements of the Office of Qualifications and Examinations Regulation (Ofqual), CCEA Regulation and Qualifications Wales.

Eligibility for an award

In order to be awarded a qualification, a learner must complete and achieve an outcome for all three components and achieve the minimum number of uniform marks at a qualification grade threshold.

Unclassified is considered an outcome for the purposes of aggregating a final award.

Subject to eligibility, Pearson will automatically calculate the qualification grade for your learners when the qualification claim is made.

In order to meet the terminal rule requirement, a learner must take the external assessment, Component 1 in their final series, i.e. the one in which a final award is claimed. If resitting, any prior attempts of Component 1 will not be used towards the learner's qualification grade, even if the result from the earlier attempt is higher.

The Level 2 Distinction* grade at qualification level will be awarded only if a learner has achieved a Level 2 Distinction in each component and the minimum number of uniform marks for the Level 2 Distinction* at qualification level.

Calculation of the qualification grade

The final grade awarded for a qualification represents an aggregation of a learner's performance across the three components. A higher performance in some components may be balanced by a lower outcome in others.

The UMS is used to convert learners' component 'raw' marks into uniform marks. This is done in order to standardise marks from one series to another. For example, a learner who just achieves a Level 2 Pass in an internal component one series will receive the same uniform mark as a learner achieving that same component grade the following series, regardless of their raw marks.

The minimum uniform marks required for each grade for each component

Component 1

Component Grade	L2D	L2M	L2P	L1D	L1M	L1P
Maximum UMS = 120	96	84	72	60	48	36

Learners who do not achieve the standard required for a Level 1 Pass will receive a uniform mark in the range 0–35.

Components 2 and 3

Component Grade	L2D	L2M	L2P	L1D	L1M	L1P
Maximum UMS = 90	72	63	54	45	36	27

Learners who do not achieve the standard required for a Level 1 Pass will receive a uniform mark in the range 0–26.

Qualification level results: the minimum uniform marks required for each grade

Qualification Grade	L2D*	L2D	L2M	L2P	L1D	L1M	L1P
Maximum UMS = 300	270	240	210	180	150	120	90

Learners who do not achieve the standard required for a Level 1 Pass grade will receive a uniform mark in the range 0–89.

The Level 2 Distinction* grade at qualification level will be awarded only if a learner has achieved a Level 2 Distinction in each component and the minimum number of uniform marks for the Level 2 Distinction* at qualification level.

Results issue

Results are issued in line with advertised timeframes, which can be found in the 'key dates' section of our *Information Manual* available on our website: qualifications.pearson.com (search for key dates).

9 Administrative arrangements

Introduction

This section focuses on the administrative requirements for delivering BTEC Tech Award qualifications. It will be of value to Quality Nominees, Programme Leads, Assessors and Examinations Officers.

Learner registration and entry

Learners must be registered in line with the *Information Manual* (by 1 November). Shortly after learners start the programme of learning, you need to make sure that they are registered for the qualification and that appropriate arrangements are made for internal and external assessment. You need to refer to our *Information Manual* for information on making registrations for the qualification and entries for internal and external assessments.

Learners can be formally assessed only for a qualification on which they are registered. If learners' intended qualifications change, for example if a learner decides to choose a qualification from a different sector, then you must transfer the learner appropriately.

Access to assessment

All assessments need to be administered carefully to ensure that all learners are treated fairly and that results and certification are issued on time to allow learners to access their chosen progression opportunities.

Our equity, diversity and inclusion policy requires all learners to have equitable opportunity to access our qualifications and assessments, and that our qualifications are awarded in a way that is fair to every learner. We are committed to making sure that:

- learners with a protected characteristic (as defined by the Equality Act 2010) are not, when they are undertaking one of our qualifications, disadvantaged in comparison to learners who do not share that characteristic
- all learners achieve the recognition they deserve for undertaking a qualification and that this achievement can be compared fairly to the achievement of their peers.

Further information on access arrangements can be found in the Joint Council for Qualifications (JCQ) document *Access Arrangements, Reasonable Adjustments and Special Consideration for General and Vocational Qualifications*.

The Pearson *Equity, Diversity and Inclusion in Pearson Qualifications and Related Services Policy* is on our website.

Administrative arrangements for internal assessment

Records

You are required to retain records of assessment for each learner. Records should include assessments taken, marks awarded and any adjustments or appeals. Further information can be found in our *Information Manual.* We may ask to audit your records, so they must be retained as specified.

Reasonable adjustments for assessment

A reasonable adjustment is one that is made before a learner takes an assessment to ensure that they have fair access to demonstrate the requirements of the assessments. You are able to make adjustments to internal assessments to take account of the needs of individual learners. In most cases, this can be achieved through a defined time extension or by adjusting the format of evidence. We can advise you if you are uncertain as to whether an adjustment is fair and reasonable. You need to plan for time to make adjustments if necessary.

Further details on how to make adjustments for learners with protected characteristics are on our website in the document *Supplementary guidance for reasonable adjustment and special consideration in vocational internally-assessed components.*

Special consideration

Special consideration is given after an assessment has taken place for learners who have been affected by adverse circumstances, such as illness. You must operate special consideration in line with our policy (see previous paragraph). You can provide special consideration related to the period of time given for evidence to be provided or for the format of the assessment if it is equally valid. You may not substitute alternative forms of evidence to that required in a component, or omit the application of any part of a mark scheme to judge attainment. Pearson can consider applications for special consideration in line with the policy.

Appeals against assessment

Your centre must have a policy for dealing with appeals from learners. These appeals may relate to assessment decisions being incorrect or assessment not being conducted fairly. The first step in such a policy could be a consideration of the evidence by a Programme Lead or other member of the programme team. Sufficient time should be allowed for potential appeals after assessment decisions have been given to learners. If there is an appeal by a learner, you must document the appeal and its resolution. Learners have a final right of appeal to Pearson but only if the procedures that you have put in place have not been followed. Further details are given in our *Internal Assessment in Vocational Qualifications: Reviews and Appeals Policy* document.

Administrative arrangements for external assessment

Entries and resits

For information on the timing of assessment and entries, please refer to the annual examinations timetable on our website. Learners are permitted to have one resit of an external assessment prior to certification where necessary, however please note the terminal rule for the external assessment.

Access arrangements requests

Access arrangements are agreed with Pearson before an assessment. They allow learners with special educational needs, disabilities or temporary injuries to:

- access the assessment
- show what they know and can do without changing the demands of the assessment.

Access arrangements should always be processed at the time of registration. Learners will then know what type of arrangements are in place for them.

Granting reasonable adjustments

For external assessment, a reasonable adjustment is one that we agree to make for an individual learner. A reasonable adjustment is defined for the individual learner and informed by the list of available access arrangements.

Whether an adjustment will be considered reasonable will depend on a number of factors, to include:

- the needs of the learner with the disability
- the effectiveness of the adjustment
- the cost of the adjustment
- the likely impact of the adjustment on the learner with the disability and other learners.

Adjustment may be judged unreasonable and not approved if it involves unreasonable costs or timeframes or affects the integrity of the assessment.

Special consideration requests

Special consideration is an adjustment made to a learner's mark or grade after an external assessment to reflect temporary injury, illness or other indisposition at the time of the assessment. An adjustment is made only if the impact on the learner is such that it is reasonably likely to have had a material effect on that learner being able to demonstrate attainment in the assessment.

Centres are required to notify us promptly of any learners that they believe have been adversely affected and request that we give special consideration. Further information can be found in the special requirements section on our website.

Dealing with malpractice in assessment

'Malpractice' refers to acts that undermine the integrity and validity of assessment, the certification of qualifications, and/or may damage the authority of those responsible for delivering the assessment and certification.

Pearson does not tolerate actual or attempted actions of malpractice by learners, centre staff or centres in connection with Pearson qualifications. Pearson may impose sanctions on learners, centre staff or centres where malpractice or attempted malpractice has been proven.

Malpractice may occur or be suspected in relation to any component/unit or type of assessment within a qualification. For further details on malpractice and advice on preventing malpractice by learners, please see Pearson's *Centre Guidance: Dealing with Malpractice*, available on our website.

Centres are required to take steps to prevent malpractice and to assist with investigating instances of suspected malpractice. Learners must be given information that explains what malpractice is and how suspected incidents will be dealt with by the centre. The *Centre Guidance: Dealing with Malpractice* document gives full information on the actions we expect you to take.

Pearson may conduct investigations if we believe a centre is failing to conduct internal assessment according to our policies. The above document gives further information and examples, and details the sanctions that may be imposed.

In the interests of learners and centre staff, centres need to respond effectively and openly to all requests relating to an investigation into an incident of suspected malpractice.

Learner malpractice

The head of centre is required to report incidents of suspected learner malpractice that occur during the delivery of Pearson qualifications. We ask centres to complete *JCQ Form M1* (www.jcq.org.uk/malpractice) and email it with any supporting documents (signed statements from the learner, invigilator, copies of evidence, etc.) to the Investigations Processing team at candidatemalpractice@pearson.com. The responsibility for determining appropriate sanctions on learners lies with Pearson.

Learners must be informed at the earliest opportunity of the specific allegation and the centre's malpractice policy, including the right of appeal. Learners found guilty of malpractice may be disqualified from the qualification for which they have been entered with Pearson.

Failure to report malpractice constitutes staff or centre malpractice.

Teacher/centre malpractice

The head of centre is required to inform Pearson's Investigations team of any incident of suspected malpractice (which includes maladministration) by centre staff before any investigation is undertaken. The head of centre is requested to inform the Investigations team by submitting a *JCQ M2* form (downloadable from www.jcq.org.uk/malpractice) with supporting documentation to pqsmalpractice@pearson.com. Where Pearson receives allegations of malpractice from other sources (for example Pearson staff, anonymous informants), the Investigations team will conduct the investigation directly or may ask the head of centre to assist.

Pearson reserves the right in cases of suspected malpractice to withhold the issuing of results/certificates while an investigation is in progress. Depending on the outcome of the investigation, results and/or certificates may not be released or they may be withheld.

You should be aware that Pearson may need to suspend certification when undertaking investigations, audits and quality assurances processes. You will be notified within a reasonable period of time if this occurs.

Sanctions and appeals

Where malpractice is proven, we may impose sanctions, such as:

- mark reduction for affected external assessments
- disqualification from the qualification
- debarment from registration for Pearson qualifications for a period of time.

If we are concerned about your centre's quality procedures, we may impose sanctions such as:

- working with centres to create an improvement action plan
- requiring staff members to receive further training
- placing temporary suspensions on certification of learners
- placing temporary suspensions on registration of learners
- debarring staff members or the centre from delivering Pearson qualifications
- suspending or withdrawing centre approval status.

The centre will be notified if any of these apply.

Pearson has established procedures for centres that are considering appeals against sanctions arising from malpractice. Appeals against a decision made by Pearson will normally be accepted only from the head of centre (on behalf of learners and/or members or staff) and from individual members (in respect of a decision taken against them personally). Further information on appeals can be found in the *JCQ Appeals* booklet (https://www.jcq.org.uk/exams-office/appeals).

Certification and results

Once a learner has completed all the required components for a qualification, the centre can claim certification for the learner, provided that quality assurance has been successfully completed. For the relevant procedures, please refer to our *Information Manual*. You can use the information provided on qualification grading to check overall qualification grades.

Results issue

Learner results will then be issued to centres. The result will be in the form of a grade. You should be prepared to discuss performance with learners, making use of the information we provide and post-results services.

Post-assessment services

It is possible to transfer or reopen registration in some circumstances. The *Information Manual* gives further information.

Additional documents to support centre administration

As an approved centre, you must ensure that all staff delivering, assessing and administering the qualifications have access to this documentation. These documents are reviewed annually and are reissued if updates are required.

- *Centre Guide for BTEC Moderation*: this sets out how we will carry out quality assurance of standards and how you need to work with us to achieve successful outcomes.
- *Information Manual*: this gives procedures for registering learners for qualifications, transferring registrations, entering for external assessments and claiming certificates.
- *Regulatory policies*: our regulatory policies are integral to our approach and explain how we meet internal and regulatory requirements. We review the regulated policies annually to ensure that they remain fit for purpose. Policies related to this qualification include:
  - *JCQ Adjustments for Candidates with Disabilities and Learning Difficulties, Access Arrangements and Reasonable Adjustments*
  - age of learners
  - centre guidance for dealing with malpractice
  - recognition of prior learning and process.

This list is not exhaustive; a full list of our regulatory policies can be found on our website.

10 Resources and support

Our aim is to give you support to enable you to deliver the BTEC Tech Award suite with confidence. You will find resources to support teaching and learning and professional development on our website.

Support for setting up your course and preparing to teach

Schemes of Work

The free Schemes of Work give suggestions and ideas on how to teach the qualifications, including teaching tips and ideas, assessment preparation and suggestions for further resources.

Course planner

This gives a high-level overview of how to plan teaching term by term over one or two years.

Support for teaching and learning

Pearson Learning Services provides a range of engaging resources to support BTEC qualifications, including:

- learner textbooks in ebook and print formats
- teacher support, including slides, interactive activities and videos, via the ActiveLearn Digital Service
- teaching and learning resources may also be available from a number of other publishers.

Details of Pearson's own resources and all endorsed resources can be found on our website.

Support for assessment

Sample assessment materials (SAMs) for externally-assessed components

Sample assessment materials are available for the externally-assessed component and can be downloaded from the Pearson Qualifications website. An additional set of sample assessment materials for the externally-assessed component will also be available, allowing your learners further opportunities for practice.

Sample Pearson-set Assignments for non-exam internally-assessed components

Sample Pearson-set Assignments are available for the non-exam internally-assessed components and can be downloaded from the Pearson Qualifications website.

Training and support from Pearson

People to talk to

There are many people who can support you and give you advice and guidance on delivering your BTEC Tech Awards. They include:

- Lead Standards Verifiers – they can support you in preparing for the moderation activity.
- Subject Advisors – they are available for all sectors. They understand all Pearson qualifications in their sector and so can answer sector-specific queries on planning, teaching, learning and assessment.
- Customer Services – the 'Support for You' section of our website gives the different ways in which you can contact us for general queries. For specific queries, our service operators can direct you to the relevant person or department.
- Pearson Quality Advisors – they can support with all quality assurance related aspects of your programme.

Training and professional development

We provide a range of training and professional development events to support the introduction, delivery, assessment, quality assurance and administration of BTEC Tech Awards. These sector-specific events, developed and delivered by specialists, are available both face-to-face and online.

 © Pearson Education Limited 2023

Appendix 1

Glossary of terms used for internally-assessed components

This is a summary of the key terms that may be used to define the requirements in the components.

Term	Definition
Account	Description of particular events or situations.
Accurate	Produce work competently, fit for purpose and correctly without significant error.
Accurately	Act or perform with care and precision; correctly within acceptable limits from a standard.
Adequate	The work is acceptable in most areas, but with some gaps or inconsistencies.
All	All relevant content for a specific area, as described in the component.
Analyse/Analysis	Separate information into components and identify characteristics, typically in order to interpret.
Applied	Put to practical use.
Appropriate	Relevant and considered in relation to the purpose/task/context. Select and use skills/knowledge in ways that reflect the aim.
Argument	Propositions supported by evidence.
Balanced	All factors have been considered in equal detail.
Basic	The work comprises the minimum required and provides the base or starting point from which to develop. Includes just the core elements or features without elaboration/examples/details.
Brief/Briefly	Accurate and to the point but lacking detail/contextualisation/examples.
Clear/ly	Easy to perceive and unambiguous.
Coherent	Logically consistent.
Communicate	Make known, transfer information, convey ideas to others.
Compare/Comparison	Identify the main factors relating to two or more items/situations, explain the similarities and differences, and in some cases say which is best and why.
Competent	Showing the necessary ability, knowledge or skill to do something successfully.
Complete	Include the required information.

 © Pearson Education Limited 2023

Term	Definition
Comprehensive	The work is well developed and thorough, covering all pertinent aspects/information to evidence understanding in terms of both breadth and depth. All elements are considered in equal depth and breadth.
Confident/ce	Exhibit certainty, having command over information/argument, etc. Demonstrate secure application of skills or processes.
Consider/ Consideration	Review and respond to given information.
Considered	Reached after, or carried out with, careful thought.
Consistency	Steps in a process followed repeatedly and as intended.
Creative	Using techniques, equipment and processes to express ideas or feelings in new ways.
Demonstrate	Carry out and apply knowledge, understanding and/or skills in a practical situation.
Describe/Description	Set out characteristics. Provide clear information that includes the relevant features, elements or facts.
Detailed	Point-by-point consideration of relevant and accurate features, elements and/or facts supported by examples, showing attention to particulars beyond a simple response.
Developed	Consider and expand on all relevant points in detail.
Dexterity/Dextrous	Perform a difficult action quickly and skilfully with the hands or the ability to think quickly and effectively.
Effective	Applies relevant knowledge and understanding and/or skills appropriately to a task and achieves the desired outcome; successful in producing a desired or intended result.
Excellent	Consistently high standard of skill in completing a practical task.
Extensive	Large in range or scope.
Few	A small number or amount, not many but more than one.
Fully	Completely or entirely; to the fullest extent.
Generally	Appropriate in most cases, with a few exceptions.
Generic	Characteristic of or relating to a class or group of things; not specific.
Good	The work gives information and careful consideration about many/several elements of the context, usually point by point, and lines of reasoning are clear, valid, relevant and logical.
Identify/ing/ Identification	Name or otherwise characterise the main features or purpose of something.

Term	Definition
Inaccurate	Work produced incompetently, unfit for purpose with error.
Incomplete	Not fully finished, with one or more parts of a task missing.
In-depth	Covering most, or all, important points of a subject.
Insightful	Showing an accurate and deep understanding.
Insufficient/ly	Lacking adequate evidence.
Interpret	State the meaning, purpose or qualities of something using images, words or other expressions.
Investigate	Carry out research or trial activities to increase understanding of the application of information.
Irrelevant	Inapplicable in the argument.
Judgement	An opinion formed by discerning and comparing.
Justify	Give reasons or evidence to support an opinion or prove something right or reasonable.
Largely	Appropriate on the whole or to a great extent.
Limited	The work is narrow in competence, ability, range or scope, including only a part of the information required to evidence partial, rather than full, knowledge, understanding and/or skills and is often tentative in relation to context.
Linkages	Factor/content relates directly to another area of content/factor.
Little	A very small amount of evidence, or low number of examples, compared with what was expected, is included in the work.
Logical/ly	Reasonable and sensible. Methods or processes followed in a way that shows clear, sound reasoning.
Many	A large number of (less than 'most').
Methodically	Tasks carried out in an orderly and logical manner.
Most/ly	Nearly all of the content which is expected has been included.
Narrow	Limited in terms of range. Only considers a few aspects.
Often	Most of the time with a few exceptions.
Partial/ly	To some extent, but not completely. Some key points are included, but others are missing.
Perceptive	Insightful, showing a deep level of understanding.
Persuasive	Influencing through reasoning.

Term	Definition
Pertinent	Considered and thoughtful approach in relation to the task/ activity which demonstrates an astute understanding of contributing factors and/or links.
Precision	Use of accuracy and refinement to a method or process.
Professional	According to industry standards.
Range	The evidence presented is sufficiently varied to give confidence that the knowledge and principles are understood in application as well as in fact.
Realistic	Will work in a real setting.
Reasonable	Fair or moderate.
Reasoned/Reasoning	Justified, to understand and to make judgements based on practical facts.
Refine	Improve initial work, taking feedback into account.
Reflect	Think carefully and review information and/or performance – includes articulating ideas, concepts, activities, findings or features.
Relevant	Correctly focused on the activity. Applicable to the situation/context/task.
Review	Consider something formally in order to give an opinion on it based on appropriate evidence or information with the intention of instituting change if necessary.
Secure	Well-practised and confident in ability and skills.
Select	Choose the best or most suitable option related to specific criteria or outcomes.
Sensitivity	Understand and respond to needs and emotions.
Show	Present using practical skills.
Significant	Of a noticeably or measurably large amount or importance.
Simplistic	The work is composed of one part only, without elaboration/examples/details.
Some	A small amount or number of items, several items will be missing, list will be incomplete.
Specific	Relating directly to a particular area or subject.
State	Express something definitely or clearly.
Straightforward	To the point and easy to understand.
Sufficient	Meet the basic needs or requirements of a situation/context but with some limitations.
Suitable	Appropriate for a particular purpose.

Term	Definition
Summarise	Gather together all of the main aspects of a given situation or experience in a condensed format.
Superficial	Lacking depth of knowledge or understanding. Generic response, with no link to the task context.
Supported	Validated with evidence.
Systematically	Follows a method or procedure accurately, logically and in the correct order of process.
Tentative	Uncertain in approach or connection to the task or context.
Thorough	Comprehensive and extremely attentive to accuracy and detail.
Timely	Methods/techniques used when necessary/appropriate.
Unbalanced	All factors have not been considered in equal detail; some are considered in more detail than others.
Unclear	Not obvious or definite; ambiguous.
Unrealistic	Inappropriate to reality and will not work in a real setting.
Unsupported	Not verified or substantiated with evidence.
Well	To a high standard or degree of completion.
Wide range	Includes many relevant details, examples or contexts, thus avoiding a narrow or superficial approach; a broad approach taken to scope/scale; a comprehensive list of examples given.

 © Pearson Education Limited 2023

For information about Pearson Qualifications, including Pearson Edexcel, BTEC and LCCI qualifications visit qualifications.pearson.com

Edexcel and BTEC are registered trademarks of Pearson Education Limited

Pearson Education Limited. Registered in England and Wales No. 872828
Registered Office: 80 Strand, London WC2R 0RL.

VAT Reg No GB 278 537121

Cover image © SDI Productions/Getty Images

Pearson
BTEC

Publication code:
VQ000070